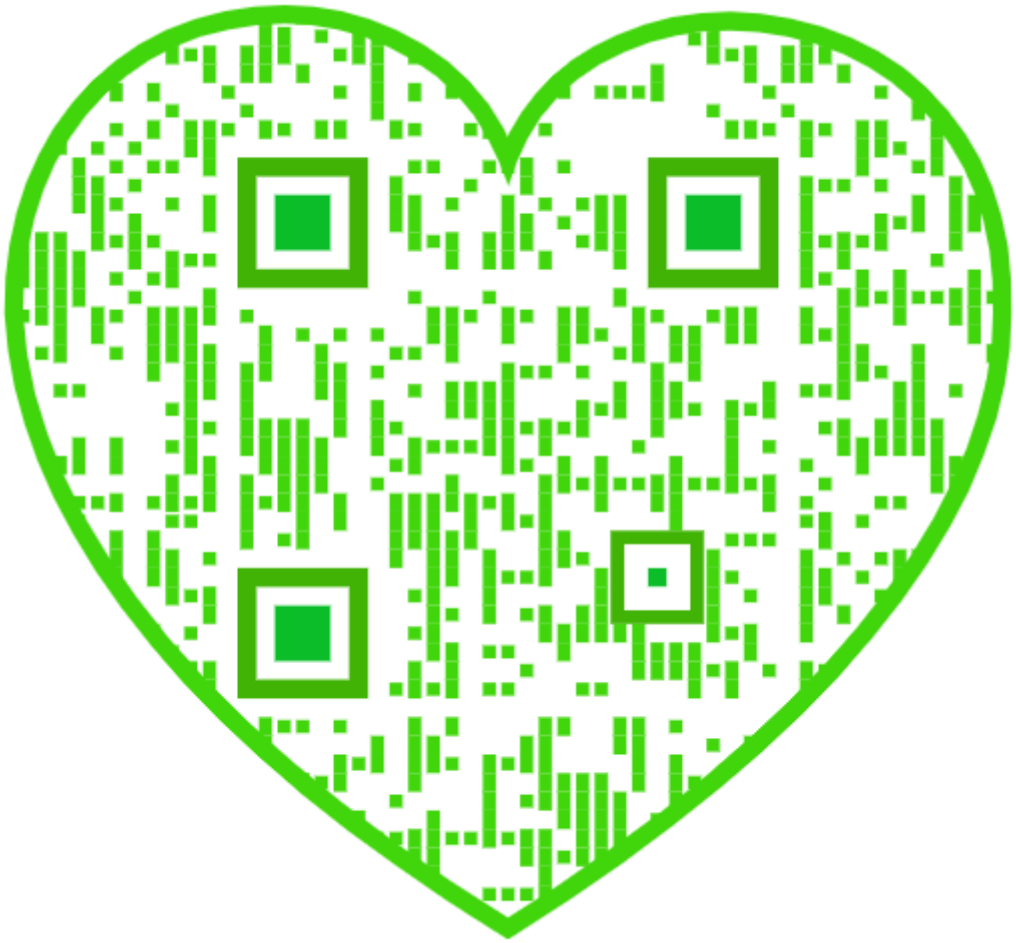

HYPNOTISM

OR

SUGGESTION AND PSYCHOTHERAPY

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A Study of the Psychological, Psycho-Physiological and Therapeutic Aspects of Hypnotism

BY

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Translated from the Fifth German Edition

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PREFACE TO THE FIRST ENGLISH EDITION

In recommending a very careful study of Professor Forel's book to the English-reading medical public, I can confidently promise that both from an academic and also a practical point of view much benefit will thereby be gained. Professor Forel is a true philosopher, and treats his subject consistently in a logical spirit; Professor Forel is a psychologist and physiologist of no meager description, and his utterances for this reason deserve careful consideration.

The importance of studying the functional aspects of thought and of other psychical exercises has become an urgency, more especially since this is not taught in our medical schools; and the impressions which the practitioner gains depend greatly on accident, and on the particular trend of his mental reasoning.

While it is obviously impossible for any one to be in a position to criticise a subject like hypnotism by the mere perusal of a volume, I feel sure that the enthusiasm which this book is capable of awakening for this subject is of such a nature that future opportunities of acquiring personal practical acquaintance with hypnosis will be grasped by all intelligent students. For myself, I would say that medical practice without suggestion is an impossibility. Furthermore, I am convinced that this holds good universally, although it is not widely recognized.

In offering this translation to the English-speaking reader, I must apologize for having introduced a few new or changed technical terms when these appeared to me to correspond more exactly to the original text than already existing terms. For the rest, I trust the reader will find the English edition of Professor Forel's work an interesting book, and one from which much knowledge may be acquired.

H. W. ARMIT.

Wembley.

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PREFACE TO THE FIRST EDITION

The chief part of the present little work appeared as an article in the *Zeitschrift für die Gesammte Strafrechtswissenschaft,* under the title of "Der Hypnotismus und seine strafrechtliche Bedeutung" (Hypnotism and its Forensic Aspects).

The wish, which has been expressed to me from many quarters, that I should place this article, in a short, comprehensive form, before the whole medical profession, and give the chief facts about hypnotism and the up-to-date theories, impelled me to publish the work in book form, with a number of supplementary data. My days were so taken up with other work that I found it exceedingly difficult to find time for this. Perhaps the imperfections of the present sketch may be excused on these grounds.

Those who wish to take up this subject ought to read Bernheim's classical work "De la suggestion et de ses application et la thérapeutique" (Paris: O. Doin).

Like everything else which is brought freshly to the notice of the public, hypnotism has also been severely attacked by some, greeted with derision and skepticism by others, judged with exaggerated sanguinism by others again, and, lastly, decorated with all sorts of various exaggerations.

Some regard it as humbug, and call all hypnotized persons malingerers. This view, I may explain in passing, has been refuted as absurd to the mind of every unbiassed person by the very number of the so-called malingerers. Some believe that the world is being turned upside down and the law endangered, and they wish the police to interfere, to drive hypnotism away like a plague.

I shall be glad if I can help, by means of this work, to disperse the various outgrowths arising from this irrational human mental excitement, and reduce the facts to their actual measure

and importance. I believe that a fairly wide experience, extending over two years, will enable me to succeed in doing this.

I would say to the scoffers and skeptics, "Test before you judge."

One can only judge hypnotism if one has practiced hypnotizing for a considerable time.

DR. AUG. FOREL.

ZÜRICH.

PREFACE TO THE FIFTH EDITION

The fourth edition appeared in 1902, when this work had already increased considerably in size. Since this date only a few new data and new views have been brought to light, and therefore I have found it necessary to make only a few additions and alterations in the book. The most important publications on this subject have appeared in the *Zeitschrift für Hypnotismus* (now called *Journal für Psychologie und Neurologie*), edited by Dr. Oscar Vogt (Leipzig: Amb. Barth). In recent years practically nothing has been done which has directly furthered the development of the doctrine of suggestion. On the other hand, Semon's theory of the "Mneme" is of importance. Dubois' views have created a considerable sensation. I shall return to this in Chapter VII.

Chapter I and § 16 of Chapter IV are of theoretical nature. They require more effort and psychological deliberation than the rest. They are, however, not absolutely indispensable. Still those readers who will expend the energy in carefully reading and understanding it will grasp hypnotism, not only half or superficially, but fully.

In the fifth edition a new chapter (No. X), on "A Case of Double Consciousness," has been added. Chapters IX, XII, XIII, XIV, and XV have remained unaltered. Numerous additions and alterations have had to be made in Chapters III, IV (§§ 2 and 5), VI, and VII, while only a few were made in the remaining chapters and in the remaining paragraphs of Chapter IV.

DR. AUG. FOREL.

Chigny, near Morges.

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HYPNOTISM OR SUGGESTION AND PSYCHOTHERAPY

CHAPTER I

CONSCIOUSNESS AND THE HYPOTHESIS OF IDENTITY (MONISM)

It is necessary to have a clear idea of the meaning of consciousness in order to understand hypnotism. The phenomena of hypnotism actually indicate a play between the "conceived" and the apparently "unconceived" in our minds. Nothing is more fitted to produce a proof that the expression "unconceived" is incorrect, and does not correspond to facts, than just this play.

It is, therefore, wise to come to a clear understanding of the term "psychical," which deals with the component parts of the field of consciousness, in order to avoid confusion of words, and not to follow theology in the sense in which Goethe's Mephistopheles followed it in teaching the student. Two definitions of the word "psychical" have been hopelessly confused: (1) The abstract idea of "introspection," or subjectivism — *i.e.,* the physiological observations which everyone realizes, and is able to realize only in and about himself. I will reserve the word "consciousness" for this definition. (2) The active element of the mind—*i.e.,* the physiological action of the brain, which produces the component parts of the field of consciousness. One has erroneously included this latter in consciousness in its widest sense, and thereby the confusion has arisen which admits consciousness as a characteristic of the mind.

I call the molecular activity waves of the nerve elements "neurokymes."

One cannot speak of the consciousness of other persons without drawing deductions of analogy, neither should one speak of the consciousness of forgotten things when dealing with one's self. The field of our consciousness is, however, constantly changing. Things appear in it and disappear out of it. Many things can be more or less easily, albeit indirectly, recalled to consciousness by association through the intermediation of memory. These things appeared for the moment not to be within the consciousness of the person. The experience of observations on one's self allows one to recognize experimentally that many things which appeared to be unconceived are actually conceived, or had been conceived. More than this, many sensory impressions remain unrealized to our usual consciousness in waking condition, or, as I prefer to call it, to our "superconsciousness," during the time when they are taking place, but they can be recalled later. Whole chains of cerebral activity—*e.g.,* dreams, somnambulism, or double consciousness —are apparently removed from the superconsciousness, but can be associated with the remembered conditions either by suggestion or other means at a later date. In these cases the seemingly unrecognized is thus proved, nevertheless, to be recognized. These phenomena have often led to mystic and dualistic interpretations. They can, however, be explained with the help of a very simple assumption. Presuming, as we are justified in doing, that the fields of introspective cerebral activity are limited by the processes of association or dissociation—that is to say, that we cannot connect all these processes with each other at any one time, and therefore all those things which appear to us to be unconceived in reality are conceived, or have a subjective reflex—the following may be deduced:

Our usual consciousness in waking condition or superconsciousness is only the internal subjective reflex of the activity of attention, the individual parts of which are intimately connected; it is only the reflex of upper limits, intensely concentrated, of certain active conditions of the cerebrum during waking. There are, besides, other forms of consciousness, which are in part forgotten, and in part only loosely or indirectly connected with the components of the superconsciousness,

and which one may call hypoconsciousness, in contradistinction to the superconsciousness. These correspond to other active conditions of the brain which are less concentrated, or associated in a different way. One must further assume the existence of still other forms of hypoconsciousness associated with the subcortical (lower) brain centers, which are still further removed from superconsciousness, and so on.

The Theory of the Mneme

Before we go further we must regard the phenomena of memory and allied processes more closely in the light of a recent highly important work.

Starting from Ewald Hering's ingenious idea that "instinct is, as it were, a form of memory," Richard Semon[1] produced the convincing proof, that this is not only an analogy, but a more deeply placed identity in the organic processes. In order to avoid psychological terminology, he introduces new terms for general ideas, starting from a careful definition of what we understand by "stimulus."

He defines stimulus as "an energetic action on the organism, of such a nature that it calls forth a number of complicated changes in the susceptible substance of the living organism." He calls this altered condition of the organism, which lasts for the same time as does the stimulus, the Condition of Excitation. Before the stimulus has acted, the organism is in a condition of Primary Indifference toward the stimulus; afterwards, it is in a condition of Secondary Indifference.

If, after the stimulus has ceased, the susceptible substance of the living organism in the condition of secondary indifference shows permanent changes, Semon calls the action "engraphic." The change itself he calls "engram." The sum total, not only of the inherited, but also of the individually acquired engrams of a living being, he calls "mneme." He uses the term "ecphoria" for the repeated production of the whole condition of excitation of the organism, which is syn-

[1] R. Semon, "Die Mneme als erhaltendes Prinzip im Wechsel des organischen Geschehens" (Leipzig: Wilh. Engelmann, 1904).

chronous with the passed complex stimulus, which is produced by either a part of the same or by the weakened full stimulus. This term corresponds to the processes of association, of memory, and of the physiological conditions of automatism, ontogenesis, and phylogenesis, which are all psychologically recognized as introspective processes. Engrams are, therefore, "ecphorized." The whole mnemetic excitation (engram complex) concurs with the contemporary condition of excitation produced by the new stimulus in every process of this kind. Semon calls this concord "homophonia." When a discord between the action of the new stimulus and the mnemetic excitation occurs, the activity of attention helps introspectively, the regeneration processes help ontogenetically, and adaptation helps phylogenetically to restore the homophonia.

Semon shows, on the evidence of convincing facts, that the actions of the stimulus are only localized temporarily and relatively to the region of entrance—primary limitation region (*Eigenbezirk*)—but radiate and die away in the whole organism, and not only in the nervous system; for these stimuli act, for example, in plants as well. In this way even an enormously weakened nerve engraph can attack embryonic cells. Semon further shows that very weak engraphic actions can attain a condition of ecphoria after innumerable repetitions (phylogenetically after innumerable generations). And thus the possibility of an extremely slow inheritance of acquired characteristics, produced by innumerable repetitions, can be explained on mnemetic principles without impugning the correctness of the facts brought forward by Weismann. That this is so is shown by the fact that the influences of "crossings" (conjunctions) and of the choice of propagation naturally act infinitely more quickly and more intensely than do the individually inherited mnemetic engraphs. These engraphs might serve as an explanation for De Vries' mutations.

Semon's uniform elucidation of these ideas in morphology, biology, and psychology is brilliant, and the new points of view which are opened out by it are of great importance. The mneme works, under the influences of the outer world, conservatively and in combining by means of engraphy, while the

choice of propagation roots out all that is badly adapted. The stimuli of the outer world thus supply the true building-stones of the organism.

As one can see, Semon interprets the term " mneme " as meaning the memory, not merely as an appearance of pure psychology—that is to say, not only from an introspective point of view, but as a general law of organic life, which, however, in a special introspective case, conveys a very important meaning. The author, therefore, has substituted for the terms usually employed in psychology, such as " memory," " impression of memory," " association," etc., " mneme," " engram," " ecphoria," etc. It is necessary to emphasize that our psychological introspection possesses a constant tendency to form higher syntheses by means of repetitions and custom. Late summarized or synthetic units arise out of groups or combinations of earlier introspective units. For example, one takes the details of the formation of letters while learning to read, but when one has acquired skill in reading one " skims "; or, again, the gradual development of a selection from individual mental pictures—*e.g.,* the reception of the term " dog " obtained by seeing several (individual) dogs, etc. In this way the detail does not disappear from the brain. During synthetic thinking, it is true, it is no longer " superconceived," but only " hypoconceived "; but it can, in the majority of cases, become again at least recognized by the help of the concentration of attention—*e.g.,* the details of the formation of letters.

. . . . . .

It is easy to ascertain that the maximum of our psychical activity (attention) wanders constantly from one observation or thought to another. Such objects of attention as visual or auditory pictures, impulses of will, sentiments or abstract ideas, take place without a doubt in various parts of the brain or neurone complexes. Thus one can compare attention to a shifting functional *macula lutea* in the brain, or to a varying maximum of the extreme activity of the neurokymes, when responding to the most intense stimulation. But it is equally certain that other psychical phenomena, which are placed out-

side the attention, are also recognized, albeit more weakly. Lastly, one usually includes in the term "psychical"—*i.e.*, in the contents of consciousness—everything which has once been conceived, notwithstanding that that which is more or less forgotten is included. Theoretically, this appears to be sound, if one regards it superficially; but in reality there are large numbers of processes which are only just conceived during one instant, and then disappear for ever from the consciousness. It is here that one must seek the transition from the conceived to the unconceived, and not in the strong and repeatedly conceived "psychomes."[1] In this case, however, the weakness of the consciousness is also only artificial, since the internal reflexes of these processes can only be weakly echoed in the contents of a markedly deflected attention. But this does not prove that such half-conceived processes are in themselves so feebly recognized. A momentary action of the attention suffices to render them clearly conceived later on; but as a result of distraction they lose increasingly the connection with the chain of the maxima of intensity, which generally forms the remembered contents of our superconsciousness. The more weakly such half-conceived processes are connected with the superconsciousness, however, the more difficult will it be to associate them afresh with the chief chain by the aid of memory. This applies to all dreams, to all unimportant events of our lives, all instincts, and all automatic habits. But if there is a half-conceived cerebration between that which is clearly recognized and that which is unrecognized, the consciousness of which only appears to us so feeble because of the distraction of the usual chain of our memory, then this must be accepted as an undoubted indication that in the next stage the remainder of the connection must break off entirely. But we have no right to presume that consciousness itself has no part in the activity of the brain, which activity disappears in the haze of our superconsciousness. For the sake of simplicity and brevity, these so-called unconceived brain processes will be referred to as possessing hypoconsciousness.

[1] The author apologizes for this term. He has introduced it for brevity's sake to express each and every psychical unit.

If this assumption be correct—and everything tends to show that it is—the physiologist and the comparative psychologist need not trouble to take consciousness further into consideration. It does not exist of itself, but only through the activity of the brain, of which it is the intrinsic reflex. When the activity of the brain disappears, it disappears at the same time.[1] It is complicated or simple when the activity is complicated or simple, and when the latter is dissociated it also becomes dissociated. Consciousness is only an abstract term, which must lose all meaning when the conscious activity of the brain ceases. The activity of the brain, which appears in the mirror of the consciousness, appears subjectively there in the form of summary syntheses, and, indeed, the latter increases with the higher complications and selections gained by habit and practice, so that the details which were formerly conceived, as we have already seen, become hypoconceived later on, and the whole appears as a psychical unit.

Psychology, therefore, cannot be limited to the study of the phenomena of our superconsciousness by means of introspection alone, for it would then be impossible. Every individual would only have the psychology of his own subjectivism, like the old scholastic spiritualists, and would have to doubt the existence of the outer world, including his fellow-men. The deductions of analogy, the natural scientific induction, the comparison of the experience of our five senses, all prove to us the existence of the outer world and of our fellow-creatures, and of the psychology of the latter. At the same time, these factors prove to us that there is a psychology of animals—a comparative psychology. Lastly, our own psychology, taken without reference to the activity of our brains, is an incomprehensible fragment, which teems with contradictions, and which, above all, appears to contradict the law of the preservation of energy.

It is further clear from this very simple argument that a psychology which ignores the activity of the brain must be an impossibility. The contents of our superconsciousness is always influenced and caused by hypoconceived activities of the

[1] There is no such thing as an inactive consciousness without contents. The only term remaining to be applied to this is "pure nothing," in its abstract sense.

brain.[1] It cannot be understood without these activities. On the other hand, we can only understand the full value and the basis of the complicated organization of our brain, if we regard it in the inner illumination of our consciousness, and if we amplify this observation by comparing the contents of consciousness of our fellow-men. The last mentioned is rendered possible for us by means of spoken and written speech—the "coinage" of thinking—which offer detailed deductions of analogy. The mind must, therefore, be studied from without and from within. Outside ourselves, it is true, the former can only be carried out by deduction of analogy; but as this is the only means at our disposal, we must employ it.

Talleyrand said that speech has been given to man, not for the expression, but for the concealing of his thoughts. Apart from this, some people honestly place a very different construction on words than do others. A scientist, an artist, a peasant, a woman, a child, an uncivilized Wedda of Ceylon, interpret the same words of the same language quite differently; but even the same person may interpret the words differently, according to his mood and the connection in which they are used. From this we may infer that for the psychologist, and especially for the physician for diseases of the brain—and I speak as one—mimicry, expression, and action of a person often reveal the true internal man better than what he says. In the same way, also, the movements and actions of animals have the importance of a "speech" for us. The psychological value of these must not be undervalued. Besides, the anatomy, physiology, and pathology of human and animal brains have brought forward the incontestable proof that the characters of our mind depend on the quality, quantity, and integrity of the living brain, and are therefore identical with it. A living brain without a mind can no more exist than can a mind without a brain, and every normal or pathological change of the activity of the mind corresponds to a normal or pathological change of the

[1] In his novel, "La femme de trente ans" (published by Calman Levy), p. 127, Balzac writes: "Il existe des pensées auxquelles nous obéissons sans les connaître: elles sont en nous à notre insu. Quoique cette réflexion puisse paraître plus paradoxale que vraie, chaque personne de bonne foi en trouvera mille preuves dans sa vie." Balzac was a good psychologist. He had already recognized the value of the hypoconceived influences.

activity of the neurokymes of the brain—*i.e.,* of its nerve elements. What we recognize introspectively in our consciousness are synthesized activities of the brain.

We can therefore accept the theory of identity regarding the relations of pure psychology (introspection) to the physiology of the brain (the observation of the activity of the brain from without) as long as the facts are consistent.

Kopernik's theory is also a supposition. We can accept with Kopernik that the earth and the planets revolve around the sun, and not the reverse—*i.e.,* the sun and stars revolving around us. Still this is not actually proved—at all events, not deductively. One can, however, still adopt the reverse view with Ptolemy. But the facts which were formerly known, and those especially which have been observed more recently, all coincide with Kopernik's theory, and consistently support it in such a way that we must believe in it. On the other hand, one can only accept the views of Ptolemy by presuming the most wonderful and most unlikely erratic movements of the stars. All facts speak more and more against this view. There would be a most confused chaos, and a number of laws of magnetism, etc., which are at present universally confirmed would be overthrown. We must therefore refuse Ptolemy's theory, more especially as, by means of Kopernik's views, and of their development in the astronomy of to-day, one can prophesy celestial events exactly, and even the advent of new satellites. This would be impossible with Ptolemy's theory.

Exactly the same comparison holds good for the theory of dualism—the mind and the brain regarded as two separate things—and that of scientific monism—identity theory—which regards both as one and the same reality. Dualism can be compared to the theory of Ptolemy, because it leads to a deduction *ad absurdum,* and because, in order to explain facts, it has to make the most unlikely mystical suppositions, which do not find support anywhere, but lead to the most glaring contradictions. On the other hand, with the help of the identity theory, everything can be clearly explained without contradictions, just as the movements of the stars are explained by Kopernik's theory. It is possible here, also, often to measure psychological

reactions and to prognosticate, according to the quality of the brain and to the kind of stimuli and disturbances which act on it. When the psychology of the superconsciousness fails, the condition can be explained by amnesia—that is to say, by the want of connection on the part of the psychology of the superconsciousness with that of the hypoconsciousness. For these very simple reasons one must accept the identity theory as correct as long as it corresponds with facts and with its surroundings; this is not the case with dualism.

The word "identity," or psychophysiological monism, thus means that every psychological phenomenon creates with the molecular or neurokyme activity of the cortex, causing the phenomena, something which is real and tangible. This can only be regarded in two ways. From the point of view of dualism one only realizes the appearance, but from the point of view of monism it is the actual thing which one observes. If it were not so, there would be an excess of energy from the conjunction of purely psychical to bodily or cerebral factors, which excess would contradict the law of the preservation of energy. This has never been demonstrated, and would set at nought all the experiences of science. In the phenomena of our introspective or psychological mental life, which has been so exactly observed in the biology of the human race, in spite of the fact that they are extraordinary, there is absolutely nothing which contradicts natural laws, or which would justify the assumption of a mystic, supernatural, psychical complex.

For this reason I speak of monistic identity, and not of psychophysiological parallelism. A thing cannot be parallel with itself. Still, the modern psychologists only wish to express a presumptive parallelism of phenomena, and leave the question of dualism or monism undecided. Since many processes of the central nervous system are neither available for physiological nor for psychical observation, those phenomena which can be approached by both methods of investigation are not parallel; they are unevenly divided from one another by intermediate processes. Thus parallelism could only be a theoretical supposition. As the dualistic hypothesis is untena-

ble scientifically, it is necessary to start from the identity hypothesis.

It is absolutely clear that the same action of the nervous system of an animal—let us say of my own nervous system—must appear totally different to me if I observe it by means of physiological methods from without to what it would if it were reflected in my consciousness. It would be wasted energy to try to translate the physiological quality into psychical terms, or the reverse. One cannot even translate one psychical quality into another, in relation to the reality, which is depicted sensorily by both. An example of this is found in the vibrations of a deeply pitched tuning-fork when acting on the three senses of sound, sight, and touch. But we can accept inductively that the same fact, the same vibration, is depicted sensorily in these three ways, which are qualitatively absolutely different, or, expressed in other words, produces in us these three different impressions, which are not translatable psychically. These impressions take place in different parts of the brain, and taken as impressions, or neurokymes of the brain, are naturally actually different from one another.

One speaks of psychophysiological identity only in relation to the cortical neurokymes, which directly cause the known phenomena of consciousness on the one hand, and, in relation to these, phenomena of consciousness on the other hand.

Dualistically, a mind can only be conceived to be either without or with energy. If it be conceived as being free from energy—*i.e.*, independent of the law of energy—we arrive at a condition of faith in miracles, which would interrupt natural laws at will, and throw them over. If it be conceived as containing energy, one merely is changing one word for another with the same meaning, since a mind which obeys the laws of energy is only a portion of the brain activity which has been willfully taken from its surroundings. One accredits it with mental life, but immediately after deprives it of this. Energy can only be qualitatively transformed, and not quantitatively. If it obeyed the laws of energy, a dualistically conceived mind should be capable of being completely transformed into another form of energy; but then it would no longer be dualistic: it

would not be materially different from the activity of the brain.

From among the disciples of Bruno's and Spinoza's old metaphysical monism I should wish to mention the name of Carl Friedrich Burdach, a great brain anatomist, who has been unjustifiably forgotten. In my "Suggestion Doctrine and Science," which I published in the *Zeitschrift für Hypnotismus* in 1892, I cited his work—"Of the Structure and Life of the Brain," vol. iii. (Leipzig, 1826), p. 141 *et seq.* The reader should study this work. Burdach, appearing as an investigator of the brain, demonstrated with scientific and philosophical clearness the unity of brain and mind. Meynert's doctrine is based on Burdach's ideas. The results, however, of modern normal and pathological anatomy and histology of the brain, as well as of the most recent animal experiments, were unknown to him; but these have, in the main, fully confirmed his views.

We therefore understand by scientific or psychophysiological monism, in distinction to dualism, the hypothesis of unity of brain and mind from the point of view of psychophysiological identity. If it could be proved that something "mental"—*i.e.,* immaterial, without substratum of energy—could exist dualism would be proved.

We understand materialism as being a conception of this world, in which "matter" appears as the governing power of the world, or a sort of god; but we scarcely take into consideration that we only recognize the appearances of matter, and know absolutely nothing of its existence. It must, in consequence, only be taken as an abstract idea.

Each one of us can only recognize his own mind. We suppose the existence of other human and possibly animal minds by the intermediation of speech, mimicry, etc.—*i.e.,* by conclusions of analogy—with a probability which borders on the limits of scientific certainty. It is, however, necessary to explain matters more fully, as in recent times a marked disposition to identify monism with materialism, and thus to cause a great confusion, has shown itself.

The question of monism and dualism is not a religious one, and does not influence any religious metaphysics; but accord-

ing to the decision between these two, one can, it is true, take this as a basis for religion. But in itself it is quite another question.

Religion and metaphysics inquire into the first beginning and ultimate objects of the universe. They seek to know the nature and intentions of the universal power—*i.e.*, of God. They wish, further, to define their relations, especially to man. Religion accepts a revelation of God to man, while metaphysics attempts vainly to fathom the unfathomable by means of logical deductions.

The material or so-called objective side of phenomena and the psychical or subjective side are facts which can be observed every day, and even every second, of our lives.

Dualism teaches that there are two things: (1) Bodily or material things, which obey the natural laws; and (2) mental or spiritual things, which, it is true, occupy a certain relationship toward matter, but nevertheless possess an existence which is independent of matter. For this reason dualism speaks of the influences of body on the mind, and of mind on the body; of " immaterial " minds and spirits and of " soulless " matter.

On the other hand, monism teaches: strictly speaking, we only recognize one mind—our own. We can only accept other minds by analogy. But mind and body are not two separate things; they are only two aspects, recognized by us, two forms of appearances of the same thing. Fechner has expressed this in the following terms: " It is like a circle regarded mathematically; it is convex if looked at from outside, it is concave if looked at from within, and yet it is only one and the same." " Monism," therefore, cannot support material nor yet spiritualistic metaphysics, for it would contradict itself. The terms " matter " and " mind " are valueless, confusing words for the theory of monism if accepted as opposite conditions. These are abstract artificial terms, which man has willingly and artificially manufactured from the unity of the things of the world, but which, when taken by themselves, have absolutely no basis. Every phenomenon, no matter whether it be physiological or psychological, possesses a psychological and physiological aspect. A table, a reflex, a negative current vibration, and the like,

are only realized by me, in spite of all science, by my subjective perception, and by my mode of viewing things, which depends on a combination of the various senses. This has led me to accept the existence of the outer world. The same applies to my thinking, my feeling, and my will, to a pain, a resolution, to "love," and so on. The "psychological," is a direct phenomenon in both cases, but the "physiological," or "objective," only an indirect one, which is controlled by other senses and considerations, and is, therefore, an opened-out chain of conceptions. Since the study of the brain and of psychophysiology has brought forward the proof that a direct phenomenon of consciousness does not exist, save in connection with an action of the brain, and since we can actually observe the efforts and actions of our brain in thinking, feeling, and willing, it is obvious that every purely psychological phenomenon possesses its physiological side—the movement of a material element in the brain. In one word, nothing is "psychical" without being at the same time "physical," and, if we could observe the "non-ego," we should, in all probability, find that in the same way nothing can be "physical" without being "psychical." Metaphysical monism teaches further: as there is no "matter" without "energy," and no "energy" without "matter," so there certainly can be nothing soulless[1] (*Unbeseeltes*) in the world.

The phenomenon of introspection is only an internal reflex of that which has taken place, the exterior of which appears to us as the moving matter with its energy. No one has ever been able to separate the interior from the exterior, and no one will ever be able to do so. All attempts resolve themselves into the employment of empty words. Everyone only knows the interior in relation to himself.

Pure scientific monism (the hypothesis of identity) may, it is true, not generalize so widely as metaphysical monism, of which we have just been speaking. It is content to accept the identity of being of every psychical phenomenon, which is

[1] As soon as one employs the term "soul" for inanimate things, a storm of opposition is raised: "Fancies!" "Nonsense!" "Talk of world-souls!" and the like. This is due to the fact that people are kept captivated in anthropomorphism, and cannot grasp or understand, that the element of the introspective (psychical) reflex must be just as simple in relation to a human mind as an atom is in relation to a living human brain.

available for direct psychological observation, with its so-called brain-physiological correlative, and must leave the hypothesis of the " soul " to metaphysical speculation, in spite of the fact that it is inclined toward it.

It is not difficult to understand that the dispute on the questions detailed above has nothing to do with the metaphysics of religion directly. The first beginning and the ultimate aim—free evolution or fatalism—all remain just as untouched as does the question as to the being of a God. It is true that God, in personal relationship to ourselves and to the rest of Nature, as it appears to us, is not particularly easy to reconcile with the monistic interpretation. But even from other points of view the picturing of God in human form can scarcely be consistent with the conception of omnipotence.

A number of dogmata of various creeds obstruct the monistic view, in the same way as they formerly obstructed Kopernik's teaching of the solar system. These dogmata have taken up scientific questions, which are accessible to the capabilities of human knowledge, and have utilized them for their religious creeds. Their advocates cannot get over the fact that at the present day it is just these dogmata which have been disputed from the point of view of scientific knowledge. Herein lies the pith of the whole thing.

However, there is something which has furthered the scientific aspect of the question of " monism " or " dualism " enormously, and that is simply the investigation of the human and animal central nervous system and of its normal and pathological functions.

That which the former hazy doctrines regarded as immaterial human souls (somewhat as the savage regards lightning as *Deus ex machinâ*) is now incontestably proved from first to last to be the interior of the mental life. All attempts to separate a part of the " soul " as a " soul nucleus " from the mental life, as independent from the living brain substance, becomes lamentably frustrated by the observations daily becoming more exact and more numerous on the absolute inseparability of all normal as well as pathological phenomena of the mind from the integrity of its organ.

One chief difficulty, however, appeared still to remain in the obscure field of the so-called unconscious mental life. The law of Fechner-Weber cannot be brought into line. There are incompatibilities between the phenomena of consciousness and the observed and measured physiological results.

This is simply due to the fact that complicated apparatus (brain centers) lie between the physiologically measured results and those parts of the cerebrum in which our superconceived (psychical) life is enacted. The hypoconceived activity (which is unrecognized by our superconsciousness) of these apparatus can inhibit or facilitate, disturb or further. It thereby necessarily introduces an error in the results of psychophysiological measurements, which are based on Fechner's law. One must especially avoid drawing too definite conclusions from these measurements. Among others, the following reasons may be given: (1) The more marked concentration of cerebral activity, which undoubtedly corresponds to the process of attention, is accompanied by the most intense and clear consciousness; (2) undoubtedly the intensity and (3) duration of the brain activity assist in producing that part of our consciousness which is subjectively recognized by us or remembered. That this is extremely likely is shown by the fact, that known psychical measurements of time have proved how much more rapidly apparently unrecognized reactions take place than do recognized ones. (4) Everything which is unusual, everything which finds the brain activity unprepared, everything for which the said activity is not yet adapted or not yet sufficiently adapted, produces such reactions of the brain activity, which are accompanied by more marked superconsciousness. One could almost say that shock, quarrels, antagonism, plastic remodeling of the dynamics of the brain, call forth the phenomenon of superconsciousness, or render it more acute. It would thus appear that the more unstable forms of nerve activity are accompanied by reflections of superconsciousness. (5) Every action of the brain appears in the mirror of the consciousness—*i.e.*, subjectively—as a unit, as that which philosophers called "the condition of consciousness." But a deeper study of psychology, and especially of psychophysiology, teaches us that the apparent

units are extremely complicated, and are made up of components, which, albeit very widely apart as far as time and place are concerned, are yet linked together. One has only to think of what we call an observation—*e.g.,* that of a watch—no matter whether it is caused by a hallucination or by the actual regarding of a real watch. The example of a visual observation is particularly convincing, because of that which one has learned from persons who have been born blind, and who have only gained the sense of sight later in life through the help of an operation for cataract. At first these persons have no visual perception, but only a medley of color impressions, and they take a long time before they learn to see—*i.e.,* to perceive. They never learn this as completely as they do perception and observation by means of the other organs of special sense, and thus they continue to find their way about chiefly by feeling and sound. Even the sense, which is the simplest for us, depends, without doubt, on a large physiological complex (Hoeffding). One knows that the subjective sensation of the color white, although it seems to be single, depends on a mixture of the sensations of all colors. This can be proved by means of a wheel, which is suitably painted all colors. If such a wheel is made to revolve increasingly fast, a point is reached when our retina can no longer differentiate the single colors, and the wheel then appears to be white. In order to study really primitive simple sensations, we should have to go back to the newborn infant (apart from the case of the congenital cataract mentioned above), and, of course, that we cannot do.

As a result of what has been said, we must come to the conclusion that our human superconsciousness only means a summary, synthetic, incomplete, subjective illumination of the more developed portions of our cerebral activity.

(6) A very important phenomenon of consciousness takes place by the recalling (ecphoria) of passed activity complexes of the brain—*i.e.,* by the play of engrams or imaginations. One deals in this case with the linking together (as far as time and space are concerned) of the brain activity—*i.e.,* with the relative illumination of the latter by means of the superconsciousness. It is especially on this point that hypnotism throws an

important light. The whole process of memory is in itself quite independent from consciousness, and shows some very interesting laws.[1] We recognize, however, the laws of memory psychologically chiefly in ourselves. But it is incorrect to contrast a conceived memory with the organic or "unconceived" memory. There is only one memory, and that is composed of (*a*) the reception of molecular traces (engrams) of every brain action, and, indeed, of every nerve action; (*b*) the reviving (ecphoria) of the same; and (*c*) sometimes the recognition—*i.e.,* the identification (homophonia)—of the activity which has been restimulated by the first named (time localization).

Whether consciousness is or is not subjectively demonstrable in one or other of these processes has actually nothing at all to do with the subject, even if we are inclined to be convinced subjectively to the contrary.

The subjective reflections of consciousness can not only be dismissed and reintroduced into the actual impressions of memory *ad libitum* (suggested amnesia), but recognition can be counterfeited by suggestion—*i.e.,* a quite new mental process can produce, by means of suggestion, the erroneous consciousness of a remembrance of that which has taken place once (falsification of memory).

For example, it is absolutely immaterial for the later consciousness of an individual whether I render by means of suggestion a usually painful nerve irritation—*e.g.,* the extraction of a tooth—painless during the moment in which it is taking place, or whether, after the pain has really been perceived during consciousness, I banish the memory of the perceived pain completely and permanently from the memory by suggestion. In both cases, as I have been able to prove experimentally, the individual retains the same firm conscious conviction, that the tooth was extracted painlessly.

[1] In a published lecture ("The Memory and its Abnormalities," Zürich: Orel Fuessli, 1885) I discussed these questions minutely—for the most part, according to Ribot—but I made the one mistake in calling the consciousness an activity. It is true that no consciousness can exist without activity of the brain, but one must not designate this activity with the word "consciousness." On the other hand, in this lecture I interpreted Hering's ideas on instinct and memory correctly, although I had not followed this out further, as Semon has done. I only dimly realized the importance of this.

Ribot ("Memory and its Abnormalities") believes that recognition, taken as meaning the "becoming conceived" by the memory, belongs only to consciousness. This is, however, excluded after what we have seen, since there is no such thing as the unrecognized in the activity of the brain. One can even prove recognition in insects—*e.g.*, bees and ants—as well as the fixing of engrams, their association and their ecphoria, with certainty.

One gathers from this what a very important part amnesia plays in those processes which we call conceived or unconceived. That which we look on as unconceived by us has obviously only lost the subjective connection with our superconceived brain activity through so-called functional amnesia.

One can therefore accept that, when a marked activity of the brain of recent date has been forgotten to the consciousness, either by means of suggestion or spontaneously, this means that an inhibitory mechanism has come into action, which prevents a more marked revival (ecphoria) of this activity. The cutting off of the reflections of the superconsciousness obviously usually indicates an inhibition, while conversely those processes which act by increasing stimulation of the brain call forth such reflections, or render them more intense.

In this way we again arrive at the conclusion that living nerve substance, nerve activity, and consciousness are three forms of appearances of the same thing in their relations to ourselves, which we have abstracted by analysis, and are not three separate things. In consideration of their nature, subjectivism, energy, and matter are identical, and are revealed to us in their most complicated and most complete form as cerebrum and mind.

All that has been said so far only refers to our usual waking consciousness. The subjective contents of this, taken from a monistic point of view, can only be a synthetic symbol of the combination of cerebral activities which momentarily heightens the subjective reflex at the time when they take place. These activities are linked together by associations, and are capable of being more or less completely recalled at any time by the memory—*i.e.*, are capable of being ecphorized.

Still, we all possess a second consciousness—the dream or sleep consciousness—which does differ considerably, qualitatively speaking, from the waking consciousness. The study of its contents, however, offers the most striking confirmation of the views expressed above (see Chapter IV., section 16).

Our perception during waking consciousness gains a partial, imperfect insight into this condition by means of the remembrance of dreams. It will be necessary to return to this later, but it must be pointed out here that the subjectively differing quality of the dream consciousness must correspond to an objectively differing quality of the brain activity during sleep. If the difference were absolute, in all probability our waking consciousness would have no knowledge of our dream consciousness. But this is not so. There are often gradual transitions, which cause the connection, and which carry over certain ill-defined remembrances, associated with the subjective reflection, from the sleep activity to the waking activity of the brain, and the reverse.

In certain peculiar cases of somnambulism two or more consciousnesses (the author apologizes for the use of the plural here) which are sharply differentiated from one another have been observed, and various theories have been built up from this. These consciousnesses cannot only follow one another in point of time (alternately appear), but they can exist simultaneously in the same brain (the double ego and automatic writing of Max Dessoir).[1] These extraordinary occurrences, when considered in the light of monism and hypnotism, no longer appear to be so inexplicable, if we regard our waking consciousness simply as the introspection of an associated chain of cerebral activities—that is, of the most important, highest, and most concentrated activities. There is nothing which prevents the existence in the same brain of other chains of activity, which also possess their connection with introspection, but which are

[1] Max Dessoir, "The Double Ego," 1889 (Berlin: W. Karl Sigismund). Dessoir very rightly and carefully says at the end of this most interesting and instructive study: "Human personality consists of at least two spheres, which can be schematically divided from each other." Dessoir calls waking consciousness "superconsciousness," and he calls the other consciousness, which is less well recognized by our waking consciousness (dream consciousness, second consciousness, etc.), "hypoconsciousness" (*Unterbewusstsein*).

prevented from becoming linked to the first by an inhibitory mechanism. Connections which are apparently unconceived as far as the memory is concerned, and which are only interrupted from subjective illumination, can and must be present in both chains, for the influence of one chain on the other is ascertainable.

I once drove in a carriage, absorbed in thought. As the carriage passed a certain place, where I was accustomed to alight from the electric tram to take a steep footpath, I felt or believed that I had got out and was beginning the steep climb. The consciousness of sitting in the carriage and of being driven had disappeared for the moment from the chain of my superconsciousness, and had been replaced by a kind of dream hallucination, although the abstract train of my thoughts had not in the least been disturbed thereby. Suddenly I became aware of my illusion.

In other words, it is possible for differing activities, which occur simultaneously or which follow one another in the same brain, to possess common elementary coördinating connections, and nevertheless to appear to us subjectively to be completely, or nearly completely, divided from one another, in virtue of their waves of higher intensity or synthetized concentration, which alone are illuminated by the conceived memory. Example: dream and waking.

It is a known fact that one need not turn to dream consciousness in order to find an interruption in the linking of our thinking capabilities. One can understand that during every more marked concentration of thought—*e.g.,* in the case of the erroneously termed " absent-minded " savant—a number of accustomed activities of the brain continue to take place, and at the same time lose all subjective connection with the contents, which is concentrated on abstract ideas of the chief consciousness—*i.e.,* the chief cerebral activity. For example, I frequently have the habit of continuously humming melodies softly to myself unconsciously, when engaged in concentrating work. I attempted to catch myself when doing this, and to write down the names of the tunes (popular melodies). In the course of a few weeks I have caught myself in this way at

twenty-four different songs, some of which are old melodies of my childhood, of which I never consciously think, and some of which are songs learned later in life. One frequently calls this activity "unconceived." Dessoir attributes his "hypoconsciousness" to this. But in reality there are innumerable transitions, interruptions, renewals, etc. The chain of consciousness of many people rapidly loses the connection, while that of others (people who are said to possess a "good memory," as well as observant people) has very extensive and cohesive linking capacity. The characteristics of concentration (attention) and imagination are usually badly developed in the latter. The reflection of consciousness can appear to us to be clear, moderately clear, and hazy. Its field can reveal itself as being wide or moderately wide, both in regard to time and space. An important relationship exists between the intensity and duration (Grashey's aphasia) of the brain activity on the one hand, and its conceived capability of remembering on the other.

We cannot receive a direct subjective insight into the consciousness other than our superconsciousness, or at the most than the hypoconsciousness of our cerebrum, no matter whether these belong to other nerve centers of our own nervous system or to other people or animals. That which we know of other people depends on the conclusions of analogy obtained by speech. And even the insight which we obtain into the dream consciousness, or possibly into a second or third consciousness (cases quoted by MacNish, Azam, etc.), is mostly scanty enough. If the telepathists were right, this would certainly be otherwise.

Nevertheless, we can assume—and analogy almost forces us to do so theoretically—that the activity of other nerve centers—*e.g.,* cerebellum, mid-brain, medulla, spinal cord, ganglia—too, possesses an analogous subjective reflection. But this spinal cord capability, to choose one for an example, remains absolutely without any subjective—*i.e.,* consciously linked—association with our consciousness of self—*i.e.,* with our cerebral superconsciousness. The activity of the subcerebral centers only becomes conceived by us, if it is transformed into an activity of the cerebrum by means of wavelike transmission in

the latter. For example, after destruction of our cervical spinal cord our superconsciousness on the brain side of the rupture remains completely unscathed. Innumerable facts relating to this in the physiology, anatomy, and pathology of the brain are only explainable by means of this assumption.

The most obscure chapter in the physiology of the central nervous system is that of the function of the so-called basal ganglia of the brain, the mid-brain, and the cerebellum. There is no doubt that the unget-at-able position of these organs is not alone responsible for the difficulties. One has to deal with the fact that our subjective "ego"—*i.e.,* our cerebral superconsciousness—does not stand in any subjective relationship with the consciousness subjected to it, although its activity can be proved to work objectively in harmonizing concord with the cerebral activity. In short, we call all these obscure processes sometimes unconceived brain activity, sometimes brain reflexes, sometimes brain automatisms, and so on; but by using the expression "unconceived" one risks bringing these processes into contradistinction to the contents of our superconsciousness, and such a contrast is certainly not possible.

The fact, that an animal deprived of its cerebrum cries out when the trigeminus is stimulated, seems to show that a production of the sensation of pain takes place in the mid-brain or cerebellum, and therefore that this center also possesses its consciousness for sensations of pain; but the pain—*i.e.,* the subjective sensation—appears in the cerebral consciousness of the animal when the stimulation is transmitted from this center to the cerebrum. There is no doubt that the same applies to us. A poor youth, who had a transverse lesion of the spinal cord, laughed in astonishment when he saw that his foot was drawn up in response to the application of the actual cautery to the sole. He felt absolutely nothing. "Still," I said to him, "it hurts your spinal cord, even though you—*i.e.,* your brain—does not recognize it." In the same way the physiologist Golz's well-known dog, whose cerebrum had been removed, showed a number of simple inferior mental capabilities which corresponded to the mental life of the "lower order" brain centers of the dog.

Further conclusions arrived at by analogy show that we must accede various forms of consciousness, corresponding to the complicatedness of their structure and size, to all the various nerve centers of the animal world. The chief consciousness—*i.e.,* the consciousness of the guiding, reasoning chief activity or brain activity—must always be associated with the most complicated, largest centers. The experiments of Isidor Steiner[1] appear to prove that the chief activity in fishes takes place in the mid-brain. The same author[2] believes that one can define the brain as "the general center of movement in connection with the functional activity of one at least of the nerves of the higher senses." This definition has a great deal in its favor, but it is too absolute and too limited. The brain is merely the largest and the most complicated nerve center. It has, therefore, the most developed and the most reasoning activities—*i.e.,* possesses those activities which are capable of fitting all that is most complicated in the outer world and in the brains of other beings. In consequence, this activity takes the general leading part in the alternating action of the motor centers.

Numerous experiments and comparative biological and anatomical studies have led me to believe, that I am more than ever justified in placing the brain of ants in the corpora pedunculata of the upper œsophageal ganglion.[3] At a later date I expressed my opinion on the question of comparative psychology more minutely.[4]

The conception of consciousness, as we define it, is an elementary conception which cannot be further divided up. It is only the activity of the brain, which is reflected by it, which can be divided up. It therefore appears that we can ascribe generalities to the conception of consciousness, as well as to the conception of energy, in spite of the fact that on account of its subjective existence it is only possible to prove it by indirect

[1] Isidor Steiner, "On the Cerebrum of Vertebrate Fishes" (*Reports of the Berl. Academy of Phys. Math. Class,* January, 1886).

[2] *Ibid.,* "The Function of the Central Nervous System of Intervertebrate Animals" (*ibid.,* January, 1890).

[3] "Fourmis de la Suisse," 1874.

[4] "The Physical Capabilities of Ants and other Insects," with an Appendix on the peculiarities of the sense of smell of these insects (München: E. Rheinhardt, 1901).

induction with the required certainty outside the subject in complicated nerve centers. It may appear to be very easy to disprove my view on this subject by means of syllogisms, but they appeal forcibly to every investigator who thinks inductively. Otherwise, how could an unanalyzable subjectivism suddenly be produced which cannot be compared with any known natural phenomenon, and which cannot be derived from any phenomenon? From what should it be produced? Should it be produced with the first neuron, with the first living cell? Nature reveals itself to this very subjectivism.

If one wishes to avoid again and again arriving in the "vicious circle," in the empty battle of words conducted by a sterile scholastic dualism, one has only to study these arguments deeply. One will then see that one cannot divide the substratum, which causes the abstract conception of consciousness as we understand it from the substratum of the conception of energy. As soon as one attempts such a division, one is drifted in one of two directions. Either one accepts the "haunting" of all spiritism and spiritualism, which assigns all sorts of qualities and personal power over "matter," which is individualized in the same way, to the independent spirit or independent spirits (why not attribute legs and arms to these as well?); or one must turn to uncompromised materialism, which is untenable from the point of view of philosophy. This materialism seeks to construe or change "mind" and "consciousness" into the equally unknown abstract ideas "atom" and "energy." Thereby one only enters on a stupid play of words. Man analyzes the phenomena down to the abstract ideas which appear to him to be the elementary conceptions of energy, consciousness, qualitative difference, time and space. The last-named three he deals with as ideas relatively lying between the phenomena, and not as a phenomenon itself. But these things are covered by monistic metaphysical conceptions, which we can only infer from the phenomena of undoubtedly true things of the world, which must include all our apparently elementary conceptions. It (the metaphysical conception) appears as the essence of the universe, as a real but unfathomed conception of God, which stands completely outside the power of our under-

standing (this must not be understood to mean "personal"), or the original conception of the unknown in the world. The fact, that we cannot investigate the monistic existence of things, does not prevent us from concluding inductively as to its identity of existence, for we realize that all the phenomena which are available for our power of understanding concur with this.[1]

Following up our definition of consciousness as the subjective side of concentrated cerebral activities, we find that it is the latter which contains the power of reasoning. But this must not be accepted in the sense of Hartmann's "clairvoyant unconceived," which this philosopher believed that he could detect in instinct. Instinct is a secondary automatic product, or, as Darwin, Delbœuf, and others have expressed it, a crystallized, fixed intelligence. The plastic power of modification, with its concentration and its laborious combining work of adaptation and revival, comes first. It is this power of modification which accommodates itself as a plastic capability of reaction of the nervous system adequately and with increasing complicatedness (more reasonably) to the world and the nervous functions of other beings. Instinct is phylogentically a crystallized product of the plastic nerve work, which is automatically intimately adapted to a given complex of energy which is fixed, and which, taken as a whole, cannot be further adapted. Habit is that mechanism of the individual central nervous system by means of which an automatizing and organizing of the plastic activity of the brain takes place with increasing loss of plasticity. This occurs with the help of memory and of repetition of similar reactions of the said plastic activity of the brain. The instincts are (probably by means of the suitable natural selection of engrams, which have, in the course of generations, gradually been inherited, accumulated, and later ecphorized) further developed automatisms gradually fixed by the law of inheritance. That a human being at his birth scarcely possesses any complete instincts, but only unalterable (walking, speaking) or alterable inherited dispositions, is explainable by

[1] For further particulars I refer the reader to my lecture on "Brain and Mind," delivered at the Viennese "Naturforscherversammlung," and published by E. Strauss, in Bonn (6th edition, 1899).

the fact that at birth the brain is still quite embryonic, and the nerve fibers in parts have not yet got their medullary sheaths. Those inherited dispositions which are unavoidably realized later in every normal individual should be placed on the same level as the instincts. Just as a reasoning conscious human being possesses his habits and instincts, an insect possesses, besides its extraordinary fixed and complicated instincts, its meager, weak, plastic reasoning power, which always shows itself in its full poverty when one experimentally places unforseen obstacles, such as do not exist elsewhere in Nature, in the way of the sequence of actions of the instinct. I have carried out a series of such experiments.[1] Fabre,[2] who was misled by the great chasm lying between the seeming intelligence of the instinct and the boundless weakness of the plastic reasoning reaction of insects, fell into the error of denying the latter, although a careful reader can himself diagnose them from the magnificent observations of this author. In his last essays he does, however, at last withdraw this, and allows a discernment in insects. Memory, perception, association of remembrances, and simple conclusions arising from these, have been incontestably proved to exist by me,[3] by Wasmann, and by Buttel Reepen.

All the logical conclusions which our brain activity forms below the level of the reflection of our chief consciousness are what we call intuition, instinctive reasoning and the like. These conclusions are more rapid and safer than those which we are conscious of, but they can go astray and err, especially when they come into contact with an unknown territory. We must regard pure central (abstract ideas, emotion) and coördinating activities of the brain as well as those activities which are bound by centripetal elements (perceptions) or by centrifugal elements (impulses) as conclusions of this kind or associations of an intuitive nature. For example, we form many more abstract ideas below the level of our superconsciousness than we imagine. To repeat, it is not permissible to place unconceived and conceived activities in contradistinction. One may only compare the actual plastic activity of reason or the power of

[1] *Loc. cit.* [2] "Souvenir Entomologiques." [3] *Loc. cit.*

adaptation, which is usually superconceived, with the more or less fixed automatic, crystallized intelligence which one calls instinct, and which is for the most part hypoconceived; but even this comparison may only be relative—*i.e.*, gradual.

A psychologically interesting instance of the phenomenon of consciousness is met with in conceived and unconceived deception. Let us take the case of John Smith A., who impersonates Lord X. for the purpose of obtaining a sum of money, and of John Smith B., who through a delusion believes that he is Lord X. What is it that is conceived by A. and unconceived by B.? It is simply the difference ratio between two chains of association—firstly, the chain of association of the really experienced self-personality; and secondly that of the representation about Lord X. The sharper this difference ratio of the two dynamic association chains is marked, the sharper will be, as a rule, the reflection of consciousness, and the less often will confusion between reality and imagination be met with.

But it is clear that the attempt on the part of John Smith A. to falsely create in the mind of others the impression that both representation chains are identical must produce in his own brain an intensely associated work of both representation chains which aspires toward rendering them relatively identical. If John Smith A. possesses a strongly marked imagination, this identification will prove easy for him, and the working of the difference ratio will be weakened, for well-marked impressions of the senses and accentuations of feelings will increase the likeness and blot out the differences. The deception will become at the same time naturally better and more unconscious, but may perhaps fail through carelessness. If he possesses a very critical, objective, speculative mind, on the contrary, the difference ratio of both chains will be very sharply accentuated, and thereby the identification of these rendered more difficult. The deception in this case will be less natural, less skilled, and more conscious; but it may be better cloaked by great precaution. But other combinations could lead to similar results. For example, imagination and criticism could exist simultaneously, and the latter would correct the deception. On the other hand, the want of ethical conceptions and impulses can

increase the becoming accustomed to the lie. This would gradually weaken the referred to ratio of difference. Or an exaggerated superficiality and want of criticism could lead to the same results without the assistance of a particularly well-developed imagination. There are people in whose brains only very indistinct and weak difference ratios exist between that which is imagined and that which has actually taken place. This might not be due to the want or excess of any one special characteristic. When the difference ratio is apparently absent—or, at least, not recognized—this may be due to a want of the association of both chains of activity or of the illumination of consciousness of the same. The one is illuminated by the superconsciousness, while the other is illuminated by the hypoconsciousness. We can observe this especially well in dreams and in the hypnotized. One can then see that the imaginative liar and the pathological swindler take an intermediate place between the critically conscious deceiver and the madman (or the dreamer or the completely hypnotized person). One can further see why they play their parts much better than the conscious deceiver. The French call this *jouer au naturel* (Tartarin). But when the tendency toward a more or less complete identification of chains of imagination and chains of reality frequently occurs in the form of an inherited disposition for lying, deceiving, or even for exaggerating, one must not forget that this disposition (which exists in some degree even in the best of us) can be increased by habit or practice, or can be conquered by the reverse practice. But, above all, I wish to point out that the chief difference in the degree of the antithesis—that is, of the more or less sharp qualitative and quantitative differentiation of both chains of activity—lies in the brain, and does not depend on whether the identification or the non-identification is subjectively more or less conceived or unconceived. The stronger or weaker illumination of consciousness of the difference is actually only a result of the degree of intensity of the difference ratio itself. I would advise all who are interested in this very important and absorbing question to study Delbrueck's excellent work, "The Pathological Lie and the Psychically Abnormal Swindler" (1891).

Apperception.—Apperception or attention corresponds, as we have seen, to a kind of *macula lutea* of the maximum of intensity of the thinking activity wandering in the cerebral neurons. The thinking activity continuously ecphorizes the old slumbering associated engrams, strengthens them again, and remodels them for new combinations, or discharges them centrifugally for actions. At the same time, it is steadily stimulated by means of the activity of the senses, especially with the help of voluntary movements, by the outer world, and works with the latter in suitable alternating relationship. The intensity and extent of the attention and of its field changes constantly in this activity, which corresponds to that of actual thinking.

During dreaming and in the hypnotic state its activity is altered, is obviously inhibited and slowed, but is not on this account necessarily weakened. The phenomenon of dreams and suggestions, being on the one hand highly dissociated, and on the other extremely delicately apperceived, is a puzzling but nevertheless a true one. Extremely delicate apperceptions can actually follow one another very rapidly in certain directions in the hypnotic state. I will not dwell on this point here (see Chapter IV., section 16).

It is well known that illumination of consciousness appears to us subjectively to increase with the intensity of perception; but, as we have seen, one makes a great mistake if one deduces from this that subjectivism—*i.e.,* consciousness, sensation—are wanting *in toto* or in part from the unconcentrated or separately concentrated cerebral activities which lie outside the field of perception. As a matter of fact, our other thinking activities are only apparently more or less unconceived during very intense concentrated perception. Its combination with the chief activity of perception, and thus with the reflection of superconsciousness, is loosened, and for this reason it appears in the light of the last named to be dim or to disappear entirely. As a rule, association and amnesia go hand in hand. And functional amnesia only means the entire or partial interruption of the reflection of consciousness of various chains of activities.

CHAPTER II

THE RELATIONSHIP OF NERVE ACTIVITY TO NERVE SUBSTANCE AND TO THE CONDITIONS OF CONSCIOUSNESS

It is no longer necessary to demonstrate that the nerve activity is evidenced by increased metabolism and raising of the temperature. Visible changes in the nerve cells after intense stimulation of a nerve have been demonstrated. One is scarcely able to decide whether the chemical process which takes place in nerve activity, as such represents the nervous conduction of the stimulus (neurokyme), or whether it produces more physical molecular wave movements. It is possible that in the mysteries of the molecular processes of organic life the chemical and the physical are not always capable of being so sharply differentiated.

We are justified in placing the processes which we call inhibition and its reverse, increasing of stimulation and opening up new paths (*Bahnung* of Exner), in the substance of the ganglion cells and in the terminal branchlets or clubs of the neurones—that is, in those portions of each bordering on the other.

Certain anatomical facts appear to me to be important. The phenomena of memory appear to exclude the possibility of a destruction of brain elements, and a substitution of the same by new elements in the course of the post-embryonic life. This question caused me to have the matter investigated, and I therefore directed Dr. Schiller (at that time my assistant in Burghoelzli, and now Director in Wyl) to determine whether the number of the elements in the central nervous system increased after birth or not. According to his results, it appears that the number does not increase in the oculo-motor nerve of

the cat, but that the size of the elements does increase.[1] It is therefore extremely probable that the same nerve elements persist during the whole post-embryonic life. Birge had already shown that the number of ganglion cells in the motor nerve nuclei of the frog corresponds to the number of fibers. Pathological foci in the brain, and also the results of Gudden's brain operations on animals, prove that the brain elements, once they are destroyed, cannot be formed afresh. Only the axis cylinder of peripheral nerves can grow again through the nodes of Ranvier as long as the corresponding ganglion cell is intact.

His and I attempted to prove independently of one another, in 1886-1887, the indivisibility of nerve elements by means of important facts.[2] Basing an opinion on the embryonic growth of fibers from cells (His), and on the dependence of the fiber on the cell and the cell on the fiber in pathology and in experimental research (Forel), we denied the occurrence of anastomosis, and claimed that each fiber belongs to its own cell, existing in the form of a process. Our views have been confirmed later by Ramon y Cajal and Koelliker histologically. Waldeyer gave the nerve element (cell with its dependent branching fibers) the name of neuron, and the whole was termed the neurone theory. This agrees quite well with Schiller's results.

Nissl then studied the structure of the ganglion cells more closely by means of staining methods, and Apathy demonstrated especially the fibrilla both in the sheathless nerve fibers of intervertebrate animals and in ganglion cells with the help of excellent staining. The last-named undoubtedly proved the existence of fibrilla anastomosis in the protoplasm of the ganglion cells of the leech. Apathy therefore considers that the neurone theory can be refused, since he propounds the theory that ganglion cells are not nerve cells, but are only traversed by fibrilla. The fibrilla are supposed to be the product of other cells, which he calls nerve cells, and which are distributed everywhere, even

[1] *Comptes Rendus de l'Acad. des Sciences*, September 30, 1889. The size of fibers of the adult cat is six to eight times that of fibers of the new-born cat.

[2] His, "The Human Spinal Cord and Nerve Roots"; and Forel, "Observations on the Anatomy of the Brain and their Results." (*Arch. f. Psychiatrie*).

in the white substance. He returns to Gerlach's fiber network. In his opinion, the fibrillum is the nerve element, and is anatomically present everywhere in the gray as well as in the white substance. He considers that the cells of Schwann's sheath and the corresponding cells of the neuroglia ("intermediate substance," regarded previously as connective or epithelial tissue, and not as nervous) are derived from the nerve fibrilla. He therefore calls them fibrillogenous nerve cells. These fibrillogenous nerve cells would thus continuously be able to form new fibrilla and new anastomoses, even in the central nervous system.

One does not dispute, and has never disputed, that a new formation of peripheral nerve elements and of nerve elements of lower animals takes place. Without this assumption it would be impossible for the amputated tail of a lizard to regenerate. But, on the other hand, Apathy's theory does not agree with a number of important facts, and the physiological experiments carried out by Bethe, on which Apathy bases his opinions, do not deserve any consideration, since Bethe has revealed his suspicious unreliability in dealing with other subjects. Still, Apathy's results and views were warmly welcomed, for they led to a profounder investigation of the question. The later works of Ramon y Cajal, Wolff, Harrison, and others, have disproved Apathy's views. Harrison has shown that peripheral motor nerves grow solely from the cells of the anterior horns after destruction of the embryonic site of the sheath of Schwann.

Matthias Duval, on the other hand, has exaggerated the neurone theory by presuming that the terminal treelets of the branchings of the fibers of a neuron are possessed with amœboid movement. He attempts thereby to explain not only sleep (through the retraction of the pseudopodia and breaking off of contact), but also of inhibition and conduction of stimuli. Wiedersheim is supposed to have observed something of a similar nature in transparent animals. But, for all that, it appears to me that the whole subject encroaches on the territory of hypothetical speculation.

As far as I am concerned, the most important proof in favor of the neurone theory is not to be found in the histological ap-

pearances, which are often very difficult to realize, but in the facts of embryology of the nervous system and in the phenomena of secondary degenerations, which are always limited to the area of the neuron, no matter whether one attacks the cell or the dependent fiber. If the ganglion cells are not nervous structures, what are they there for? They are extremely unsuitably placed if they serve for the nutrition of the fibrilla. And why should fibrilla not be nourished by the directly neighboring blood and lymph vessels, like all other body elements? But if the ganglion cell plays a leading part in the central nerve activity (as Hodge and others have shown by the appearance of its exhaustion following this activity), one can easily understand why the surrounding tissue (gray substance) is so vascular, while the fibers, which have only to conduct, are poorer in vessels.

The neurone theory thus presumes that the central nervous system is made up of a number of larger cell-fiber systems, inside which each cell-fiber element is, relatively speaking, equal to its neighbor. The cell-fiber element stands in contiguous connection (not in continuity) with its neighbor through side branches of the axis cylinder processes. They connect distant portions of the gray substance by means of fibrilla bundles of nerve processes, which are relatively isolated from one another, and which we call medullary fibers, in such a way that the end of the medullary fiber terminates in a treelike branching on the surface of the nerve cell. Besides, there are nerve cells of a second category (of Golgi), which have nerve processes, which spend themselves in branching in the immediate neighborhood of the cell (and in the same gray substance as the cell itself) without forming one or more medullary fibers. And, lastly, there are muscle neurons the terminal branchings of which are distributed in the muscles. The neurone theory, therefore, presumes that the ganglion cells are fibrillogenous, and not the neuroglia cells. According to this theory, the fibrillum is a differentiation of protoplasm of the ganglion cell, having a specific nerve function.

According to the neurone theory, the activity of the nervous system consists of the following: Certain stimuli of a group of

nerve elements are conducted along the long polypoid processes of the ganglion cells to other groups of like elements by means of simple contiguity[1] of the molecular waves of stimulation, the neurokymes. We know that powerful increasing of stimuli (dynamogenesis), and just as powerful inhibiting of stimuli, take place within the central nervous system; but we do not know for certain which elements or portions of elements act inhibitorily, and which increase stimulation. Under certain circumstances it need not be separate elements or portions of elements, but it may depend on whether the stimulus waves accumulate or whether they neutralize each other by acting in opposing directions.

One can thus understand how the relatively equal valued groups of elements of the various areas of the cerebral cortex, together with their numberless polyp threads of the white substance, form a group of complex fibers—that is, of axis cylinders or fibrilla bundles—superordinated to the other centers. The concentrated activities of this group complex brings about the actual reflection of our superconsciousness. The stimuli of the special senses are projected in the cerebral cortex through the intermediation of the lower centers, and movement impulses coördinate by the system of the pyramidal cell fibers[2] are conducted from this cortex, as are the inhibitions of reflex of the reflex centers in the medulla oblongata, in the spinal cord, etc. The most complicated combinations of increase of stimulation, of conduction, and of inhibition within the whole central nervous system and between the centers and periphery—both centrifugally (motor) and centripetally—come into play in every mental activity, and in all alternating actions of perception and of our dealings. In this the conduction is carried out by the fibrilla bundles encompassed by medullary sheaths, which we call axis cylinders or nerve fibers, and which are isolated for long stretches. A further isolation takes place

[1] The contiguity might be transformed into continuity under certain circumstances, as the result of secondary adhesions.

[2] By this I mean large crossed bundles of fibers which belong to the neurons of the largest ganglion cells of the cortex (the so-called central convolutions), and which connect these cells directly with the large motor ganglion cells of the anterior horns of the spinal cord, etc. The last named form the muscle neurons.

within the same through the fibrilla, which can conduct, being completely isolated in themselves after their branching or "unbinding" (somewhat like the individual wires of a transatlantic telegraph cable).

But we must remember that many element systems of coördinated and superordinated centers are always simultaneously active, and carry over to one another their waves of stimulation.

We must, further, not forget that all our subjective sensations, that is, those of which we are conscious—there are no objective sensations: this would be a *contradictio in adjecto*—take place in the cerebrum; and the same applies to all the complex collections of sensations which we call perceptions, no matter by what sort of stimulation or combination of stimuli they are effected. All activities of the nervous system leave a trace behind them after they have taken place, or show a changed molecular arrangement of the whole coördinated complex, which one can call engram or impression of memory. Many parts of such engrams undoubtedly oscillate (or lie) in every nerve element. These traces possess, as is well known, the peculiarity that they can be ecphorized after a long time by means of an associated stimulus—*i.e.,* that they can be transformed into an activity which is almost identical with the first stimulus, even if it is mostly less powerful. We call the subjective reflection (in the consciousness) conception.

Hallucination proves that, under certain circumstances, the impressions of memory, and even whole complexes of the same, can be ecphorized again in such a manner, by pure internal stimuli of the brain, that they are in all respects equivalent subjectively to a perception—*i.e.,* to the mentally produced picture of consciousness of a complex of the stimulation of the special senses, actually projected from the periphery. It remains an open question whether the difference between perception and internal conception—*e.g.,* in a dog—depends only on the difference of the intensity of the corresponding cerebral activity, or whether it is explainable by assuming that in hallucination the centripetal cell-fiber columns from the secondary center to the corresponding area of the cortex—*e.g.,* the corpus geniculatum externum, the visual conduction column to the

cuneus for the sense of sight, etc.—are drawn into sympathetic excitement. The last explanation appeals to me as the most likely. It is certain that a blind man, with total destruction of both eyes and total atrophy of both optic nerves and of the optic track, can hallucinate still after many years. But von Monakow has shown that the cells of his corpora geniculata externa must be preserved, since these cells do not atrophy after the enucleation of the eye.

However this may be, the above-mentioned facts prove that not only hallucination or deceptive perception, but also the perception caused by real stimulation of the special senses, are in themselves cerebral processes. It is further known that a child at first only receives a medley of impressions through its senses, and must learn to observe, so that the perception depends on coördinating modeling of impressions in the cerebrum.

I considered it necessary to give all these psychological and anatomical explanations, because I have noticed that the want of a correct psychological and anatomical understanding causes the phenomena of hypnotism to appear in the light of a marvel not only to the laity, but also to medical men. The marvel, if there is one, exists in the problem of the genesis of the mind—*i.e.*, of the genesis of the brain—but not in hypnotism, if one accepts the monistic view.

Presuming that an activity produced in the brain of a human being through spoken words takes the form of a complex of energy,[1] such activity manifesting itself in the mirror of consciousness as a complex imagination, one must accept that associated hypoconceived activities coöperate with it. It is comparatively immaterial whether the given conception is ascertainably accompanied by the reflection of the superconsciousness or not. If the speaker succeeds in mastering the course of the conception in others by means of intentional, rapid, and concentrated action, accomplished by tone, words, looks, etc., he becomes increasingly capable of associating or dissociating.

[1] Such complexes of energy consist of two groups of factors: the inherited (inherited mneme) and the acquired (acquired engrams of the brain of the individual). Both groups of factors combine in a manifold manner in each individual case (single observation). I refer the reader to Semon's book on the Mneme (*loc. cit.*), and to my "Sexual Question" (Rebman Company, New York).

The brain activity of the influenced person will thus become more plastic and more adaptable toward him.

He succeeds thus in producing inhibitions and conductions, which can lead to hallucination, to the cutting off of the various linkings of the consciousness from one another (and thus to regular amnesia), to the stimulation and inhibition of the voluntary movements, to the stimulation and inhibition of the vasomotor functions (influence on menstrual and other bleeding), and even to the influencing of secretory and trophic nerve functions (sweating, vesication), according to the degree of the attained influence. All this is explainable by the peculiarity of the nerve activity, and especially of the cerebral activity. Miracles, superstition, bewitching, the belief in the mysterious, and the belief in spirits are robbed to a great extent of their halo by this, on the whole, comparatively simple elucidation, and are explained naturally.

I will illustrate the insufficiency of our pure psychology by one example. What a confusion is caused by the words "seeing" and "willing"! Does the pigeon whose brain has been removed see or not? As a matter of fact, there are several degrees of "seeing."

1. The elementary amœboid "sight" of the retinal elements, which is closely related to the photodermic sensations (light appreciation of the skin) of the lower animals. This sight cannot be considered as optic, since an element cannot perceive an optical image.

2. The sight of the anterior pair of the corpora quadrigemina and of the external geniculate body (the secondary optic centers), which receive a collected coördinate transmission of the collected retinal impression through the optic nerve. This is the sight of the brainless pigeon. This lower form of sight is never conceived by us human beings. It may be regarded as being optical, but is practically analogous to the sight of the insects which do not possess a cerebrum—*e.g.*, ants—and is scarcely capable of using optic impressions of memory in association.[1]

3. The sight of the so-called visual sphere of the cortex (cuneus), which, in spite of the physiologist Golz, do exist,

[1] Forel, "The Psychical Capabilities of Ants" (München: E. Rheinhardt, 1901).

since the fiber system from the subcortical centers ends in this place (Monakow). This corresponds to our usual super- and hypo-conscious human sight. The visual sphere receives the retinal impression second-hand, if one may use this term, and combined with many complicated associations.

4. There is still one other sight, a mental vision—viz., the repercussion of these optical stimuli of the visual sphere in other associated areas of the cortex of the cerebrum. There are people who are able to see sounds colored (Nussbaumer, Bleuler, and Lehmann), inasmuch as they always associate certain colors (mostly the same) with certain sounds or vowels.

The same applies to the centrifugal or voluntary activity, from the conceived wish, through resolve and action, to impulse and reflex twitching. This is nothing else than the completed result of feelings and of the intellect elements associated with them, however much movement may act furtheringly on impressions and feelings. The study of the disturbances of speech demonstrates plainly that there is no boundary between "somatically" and "psychically" produced motor complexes of innervation and disturbances of the same.

If we consider all these facts with that which has been stated in the early pages, we shall no longer be astonished so very much by the seeming contradictions and mysteries of hypnotism. We shall be able more readily to understand that a hypnotized person sees, and yet does not see; believes, and yet frequently apparently simulates with a certain complaisance. His consciousness can believe, and, for example, in reply to a negative hallucination, not see and not hear; while outside the reflection of consciousness, which has been dimly blotted out like a breath of air, the rest of his brain activity (his hypoconsciousness, as we have already called it) sees clearly, hears clearly, and gets out of the way of the obstruction. But in another case a concentrated powerful suggestion action may grasp much more profoundly into the hypoconceived brain activity, and may even, having been conducted strongly along the peripheral nerves, react on these, as we can see in the inhibition and production of menstruation, for example, or in the production of diarrhœa and blisters on the epidermis.

CHAPTER III

GENERAL REMARKS ON HYPNOTISM

FACTS.—The chief fact of hypnotism consists in the altered mental condition (or condition of the brain activity, considered from the physiological point of view) of a human being. One can call it "hypnosis," or the condition of suggestibility, to distinguish this condition from ordinary sleep, with which it has a marked relationship.

A second series of facts consists of the manner in which this condition is produced and removed. But in this respect erroneous interpretations have given rise to the most incorrect conceptions. Hypnosis can apparently be produced in three different ways: (1) Through the psychical influence of one person on another by means of placing ideas before the latter, which the former induces the latter to accept. This kind of hypnotizing has been termed "suggestion" (dictation—the Nancy school). (2) Through the direct action of living or lifeless objects or of a mysterious agent on the nervous system. In this case, tiring of one sense, which is concentrated for a long time on one point, is said to play an important part. In this class one speaks of the specific action of the magnet, of the human hand, of medicaments enclosed in bottles, and the like. (3) Through the reaction of the mind on itself (autohypnotism). I think that I am justified in stating, in complete agreement with Bernheim, that, in the essence of things, there is only one scientifically assured method of inducing hypnosis—viz., the induction of this condition by suggestion, be it by means of the dictation of others or by autosuggestion.[1] The

[1] The terms "autosuggestion" and "posthypnotic" have been attacked as being barbaric, since they are derived half from Latin and half from Greek roots. This view is justified from the point of view of the purist. Still, we should be thankful that our terminology is not encumbered by words like "authypoboly" or "ipsisuggestion" and "ephypnotic," for euphonism and general comprehensibility must also be taken into account.

possibility of unconscious suggestion or autosuggestion is not excluded with scientific certainty in the presumptive or apparently different forms of production of hypnosis, and seems even to be almost certainly present on closer investigation.

A third series of facts is that of the capabilities of the hypnotized. It is certain that in the condition of hypnotism induced by suggestion the most extensive reactions on nearly all the functions of the nervous system (a few spinal reflexes and functions of ganglia excluded) are possible. These include such bodily exercises as digestion, defæcation, menstruation, pulsation, reddening of the skin, etc., the independence of the cerebrum of which is generally forgotten or undervalued.

That the mental activity of the hypnotized is more or less dependent on the influencing of the hypnotist, according to the higher degrees of the influence, is also undoubted. Lastly, and of paramount importance, there is the indisputable fact that the influence exercised in hypnosis may extend itself posthypnotically into the normal condition of the mind, in all regions of the nervous system and of the mind; it may include the influence of the hypnotist over the hypnotized, and can even be continued for a long time.

On the other hand, the alleged immaterial facts, such as second sight or telepathy, the so-called direct thought-reading, and the like, are doubtful, and, at all events, are scientifically neither sufficiently corroborated nor explained. It appears that a strictly scientific control, which excludes all possible unconscious suggestion, was mostly absent in experiments of this kind, with those extremely rare cases of somnambulism which are supposed to have been successful. Where such a control was present, the experiment appears to have ended in a perfect fiasco as a rule. Nevertheless, unprejudiced science requires that this question should be carefully investigated, since a number of trustworthy persons, who are wanting in discernment, affirm especially that certain cases of presentiments have come true.

Theories and Definitions.—The definitions which one applies to hypnotism depend on those theoretical views held on this subject. If we throw overboard as far as possible the bal-

last of undigested or superstitious nonsense which is claimed for the phenomena belonging to this question, and which is scattered broadcast in the widespread trashy literature on the so-called occultism, only three theories or explanations, differing in principle, of the facts briefly recited above remain.

1. An external invisible agent penetrates into the body, and especially into the nervous system, influences the organism, and introduces into the latter something which is foreign to it; it may even be the knowledge of lifeless nature or of other living beings.[1] One formerly regarded this agent as a fluid, and the laity still speak of it as such; spiritualists call it an immaterial spirit, and in the language of modern times it would be termed a still unknown physical force. Or the thoughts and mental processes of one person reach by means of such an agent the knowledge of the mind of another person, without the intermediation of the speech of sound, of writing, or of signs of the first person, or by means of the organs of sense of the second. This is Mesmer's theory. Mesmer called the supposed agent magnetism, and especially "animal magnetism," when it appeared to be derived from the human or animal organism (the more so when it seemed to be derived from the magnetizer). This theory is supported still in certain circles by enthusiastic and even fanatic adherents, and is based on those phenomena referred to under (2), and those quoted as doubtful, alleged immaterial facts. If it were true, it would without doubt seriously influence our scientific knowledge, for the consistent ignoring on the part of science up to the present time of this unknown something, of this unknown force, would necessarily have caused an error in our results hitherto, in the same way as an important factor, if forgotten, would have done. The law of energy could not hold good, for such influences would of necessity always lead to error. But as Science, as a result of her extensive practical results, offers daily increasing proof of

[1] It is not absolutely uninteresting to compare these views with those of the physiologist Albrecht Bethe, who assumes the intervention of "unknown powers" in the method in which insects find their way about, instead of employing the conclusion of analogy, which requires less seeking, and accepting that insects use their organs of sense, as well as their memory and the association of their engrams, simply as we do. (Forel, "The Psychical Capabilities of Ants," *loc. cit.*)

her intrinsic truth, one has reason to distrust Mesmer's theory, and to require of it unambiguous, unimpeachable proofs. Let us consider briefly how matters lie.

Mesmer and his school have been so completely contradicted by Braid and Liébeault as far as the facts referred to above as indisputable are concerned (see later) that it were vain to waste more time on this subject. The fluid theory takes umbrage behind the supposed facts even at the present time, which are guarded by the spiritualists, and which, according to the circles in which they are produced, are so intimately intermingled with blind fanaticism, with mental disturbances (hallucinations), with misconceived suggestions, with trickery and with superstition, that it is extremely difficult to subject them to a scientific investigation at present. The spirits and the fourth dimension of the spiritualists are the conceptions which would correspond to the unknown agent. The so-called "materialization of spirits," which probably depends partly on hallucinations of feeling and partly on deceit, indicates the consummation of the nonsense of dualistic conceptions. In order to demonstrate the reality of an immaterial, energyless spirit, one wishes to render it material, and containing energy.

As far as the "photographs" of "spirits" are concerned, there is a very simple photographic method of producing such pictures. I have seen an excellent spirit photograph which was taken by an honest photographer without a "spirit"! The sort of trick which is similar to those employed by conjurers plays a part here which must not be undervalued.

A series of apparently supernatural phenomena which are supposed to speak in favor of Mesmer's or allied theories are, as has already been stated, constantly being brought forward by upright, trustworthy people. I can mention the so-called thought-reading, improperly called "mental suggestion"; clairvoyance; seeing or guessing of what is taking place at a distance; the so-called presentiments and "fortune-telling," *inter alia.* These supposed phenomena are collectively styled "telepathy."

"Phantasms of the Living"[1] is an extraordinary book from

[1] "Phantasms of the Living," by Gurney (Myers and Podmore, two vols. in 8vo.; Trübner, London, 1877).

the above-mentioned point of view. In it no less than six hundred observations on visions, dreams, presentiments, and the like, which were fulfilled, are recorded. Exact inquiries are said to have been made into the reliability of the sources of the accounts, and only clear accounts of trustworthy persons were supposed to have been accepted. A review of this book was published in the *Revue des Deux Mondes* of May 1, 1888. Everyone can meet with several similar observations among his own friends, and, without doubt, among trustworthy persons.[1] One must further not fail to mention in this place that in the history of the world a considerable amount of telepathy is recorded. One meets with the belief in the so-called sympathetic influences and in the fulfillment of presentiments up to the present time and in spite of all enlightenment, even in professed atheists.

The experiments of Ch. Richet are also interesting. He attempts to prove the influence of the thinking of one individual on the thinking of another in a certain direction without external appearances which could be sensorily perceived. It appears to me, however, that the proofs are extremely imperfect, and the probability calculation employed very unconvincing. The later investigations of von Schrenk-Notzing, Flournoy, and others, have also failed to arrive at definite conclusions.

It is exceedingly difficult in all these experiments, apart from accident and trickery, to exclude with certainty self-deception on the part of the hypnotized—that is, of the subject—and even on the part of the hypnotizer, especially of every unconscious suggestion and autosuggestion. It is therefore necessary that great caution should be exercised in accepting these forms of results.

Since the third edition of this book there has been nothing new of importance relative to the subject of telepathy to report. At all events, telepathy has not been able to bring forward a new elucidation, while the doctrine of suggestion has been freely confirmed during the same period of time. All the stories of spiritualists and of superficial individuals have not been able to alter anything belonging to these facts. Still, I would wish

[1] See also Liébeault, "Le Sommeil Provoqué," 1889, p. 295.

to add the following: Professor Th. Flournoy (Geneva) recounted, in some lectures which he delivered in Lausanne, in 1900, that Pouchet once offered one thousand francs to any person who could read a sentence which he had placed in a double envelope, to which a seal had been attached. Professor Flournoy did not fully approve of the method of carrying out this experiment of Pouchet's, but still admitted the possibility that telepathic reading might succeed.

My cousin, Professor F. A. Forel, of Morges, then suggested that similar conditions should be imposed, and that the following might be found satisfactory:

He gave Professor Flournoy a carefully closed and sealed casket, and promised the sum of one thousand francs to any person who could, during the course of one year read a motto which was enclosed in the box.

Replies came in so quickly that Professor Flournoy[1] became alarmed at the prospects if he continued to take charge of the box, ended the experiment after a fortnight, and sent the casket back to Professor Forel.

Not a single reply sent in bore the slightest resemblance to the enclosed sentence. The latter ran as follows: *Et il l'enduisit de bitume, en dedans et en dehors.*

It is a pity that my cousin's conditions were not allowed a further chance. It would have been worth while to have awaited the results of the whole year. On a previous occasion the French Academy of Mesmerism offered similar conditions. The failure of the telepaths was a complete one. In future it may be necessary to guard against the use of Roentgen rays and radium, etc., when carrying out this form of experiment.

[1] Professor Flournoy's reaction, which appeared in the newspapers, had a very curious character. He promised to give 1,000 francs to charity if the Vinet School in Lausanne were struck by a ball of fire (literally, "a ball-shaped lightning") during the course of the year. The comparison of the Professor of Philosophy falls suspiciously flat. Even allowing that a ball of fire be just as rare as the presumed telepathic reading, although it can be scientifically proved to occur, one was not dealing with an experiment for which one could invite all telepathists of the world publically to compete, and for which one could allow one year's time! No invitation was directed to the ball of fire to let itself loose on the École Vinet in Lausanne! For this reason the definite negative result of the condition stipulated by Professor F. A. Forel would have carried with it quite a different significance scientifically to the fact that the Vinet School was not struck by a ball of fire.

2. The theory first formulated by Braid ("Neurhypnology," 1843), and first worked out in its full importance and practical application by Liébeault of Nancy ("Du Somneil et des États Analogues," 1866), is diametrically opposed to the first-mentioned theory. This is the conception of suggestion (dictation). It can be formulated somewhat in the following manner:

The production of the various phenomena of hypnosis by means of the calling forth of suitable impressions, and especially of impressions of the fancy. It may be mentioned in this place that the object is most easily and most certainly gained when the hypnotist declares definitely by means of speech that the condition which he wishes to induce will appear at the time while he is speaking, or at a given time, earlier or later (verbal suggestion or persuasion). When a person persuades himself of something, one speaks of autosuggestion (Bernheim). Braid did not realize the importance of suggestion, but attached instead an importance which does not belong to it to the continuous stimulation of the senses (fixation, etc.). He placed Mesmer's animal magnetism side by side with hypnotism, believed in the direct action on the peripheral nervous system, and stood the same ground as the so-called somatic school (Charcot, etc.). One is accustomed to produce a partial or complete dissociation by means of suggestion, and as the dissociation condition of the brain considerably increases the suggestibility of the brain (*i.e.*, the susceptibility toward influencing by means of suggestion), one gains the desired power at once. In the same way sleep is a dissociation condition of the brain, and actually a general one. For the purposes of obtaining rest of the neurons, suggestive dissociation is, as it were, a more or less divided up or localized sleep. But suggestion is not only produced by means of speech and by persuasion: it can be induced by everything which can call forth impressions, and, above all, which can cause strong pictures in the imagination. Liébeault is right when he writes:[1]

"La disposition à tomber dans ces états est proportionnelle à la faculté de representation mentale de chacun. L'on peut être sur que l'homme qui, en reportant son attention sur une

[1] *Loc. cit.*, p. 347.

idée image, celle d'une perception tactile, par example, ne tarde pas à la percevoir comme si elle était réelle, que cet homme est capable de dormir profondément" (*i.e.,* is able to be deeply hypnotized).

But this is not all. A suggestion can take place unconsciously—that is, hypoconsciously—or the corresponding conception may appear so feebly or for so short a time in the mirror of the superconsciousness that it disappears immediately and for ever from the latter, so that the memory cannot recall it again; and yet this suggestion may act powerfully. As the result of the complete amnesia, one cannot even show that the conception in question was ever recognized in such cases. But it was nevertheless certainly present; closer inspection proves this. The point on which the whole question of the understanding of a great number of self-deceptions and alleged Mesmer's actions turn lies here. For example, one hypnotizes a peasant girl, who has not the faintest idea of physics and of prisms, for the first time, and places a prism in front of her eyes, after having suggested to her that she is to look at an imaginary candle, suspended in space. On asking her what she sees, she will reply, "Two candles." This depends on an unconceived suggestion, as Bernheim has been able to prove. The girl saw the real objects present in the room through the prism double, and, having been unconsciously influenced, doubled the suggested candle. If the experiment is carried out in a completely darkened room on a person who has never before been hypnotized, and who has no theoretical knowledge of these things, the suggested picture will never be doubled by a prism (Bernheim). One can hardly assume that the girl became conscious of the conditions during the hypnosis, and, because she recognized all other objects as double, believed that she saw the candle double also. The "doubling" took place instinctively, automatically, below the level of the superconsciousness. She did not fix the other objects, but only the fictitious candle. Nevertheless, this doubling was recognized by her (probably hypoconsciously) and made use of. However, the mechanism of suggestion always remains unconceived to the superconsciousness; or, in other words, the manner, in which the heard and

understood words of the hypnotist or in which the perception and further association of these create the actual result, remains unconceived.

Liébeault's suggestion theory of hypnosis has presented such striking proofs of its correctness, that it must be accepted as having established itself completely by now. This has been achieved not only by the practical results, chiefly in medical therapy, but also in education and in many other branches. The methods corresponding to other theories have been able to produce a part of the appearances of hypnosis only in hysterical or nervous persons, but very exceptionally also in healthy persons, with more or less difficulty. These theories were forced to resort to most wonderful nebulous explanations, because they were always face to face with puzzles and contradictions. Against this, suggestion succeeds easily with almost every healthy person, and, with the exception of the facts referred to above as being doubtful, it explains everything naturally from a single point of view. Besides, suggestion is in complete concord with a scientific psychophysiology, and throws a powerful light on the functions of our brains.

The number of mentally healthy persons hypnotized in Nancy by Liébeault [1] and Bernheim has reached many thousands. Only ninety-seven out of three thousand one hundred and forty-eight persons subjected by Dr. Wetterstrand, of Stockholm, to the influence of suggestion during the period 1887-1890 remained uninfluenced. Dr. van Renterghem and Dr. van Eeden, of Amsterdam, had up to 1895 successfully hypnotized one thousand and thirty-one out of one thousand and eighty-nine persons by suggestion. Dr. Velander, in Joenkoeping, had only twenty refractory persons among one thousand hypnotized subjects. Dr. von Schrenck only had twenty-nine failures with two hundred and forty successes, and Dr. Tuckey had thirty failures with two hundred and twenty successes, and so on. (The statistical accounts are derived from Dr. von Schrenck-Notzing, München, 1893.) In recent years I myself have been able to influence, more or less, about ninety-six per

[1] Liébeault ("Thérapeutique Suggestive," 1891) gives the number of the various people hypnotized by him as over 7,500. Liébeault died, at the age of eighty-one years, on February 17, 1904.

cent. of all cases. I used to give an out-patient course on suggestive therapy (one and a half hours every week) during each summer session in Zürich. During these courses about fifty to seventy patients were hypnotized therapeutically in the presence of the students each time, and I can truthfully say that within the last few years scarcely as many as from one to three of these cases remained quite uninfluenced at any one sitting. Dr. Ringier, who learned the suggestion method under me in 1887, found that among two hundred and ten patients treated by him by suggestion there were only twelve who were not influenced.[1] Oscar Vogt, who exceeded all others in the more minute psychical analysis, succeeded in nearly cent. per cent. of his attempts to influence his patients by suggestion, and was especially successful in producing a large number of somnambulists. Among all these hypnotized persons, there was a large number of complete somnambulists with posthypnotic phenomena, etc.[2]

What a curious figure the handful of hysterics of the Salpetrière in Paris cut in comparison with the numbers quoted above! They were not more than a dozen all told. For many years always the same persons were used to demonstrate "hypnotism" on the basis of Charcot's theory, and they had obviously drifted into a condition of complete automatism of unrecognized suggestion or of hysterical autosuggestion.

If one considers what has been said, one is inclined to accept that the earlier hazy conception of hypnotism must become identified in the conception of suggestion. The explanation of the greatest portion, if not of the whole, of the phenomena under consideration is to be found herein.

3. The so-called "somatic" theories of hypnotism can be collectively considered as those theories which lie, as it were,

[1] Ringier, "Results of Therapeutic Hypnotism in Country Practice," 1891.

[2] Many medical men practising hypnotism have not collected their cases statistically. Still, we dare say that everyone who has grasped the Nancy method (Liébeault, Bernheim, Beaunis, Liégeois) and has to some extent practised it, is capable of influencing more or less strongly between 90 and 96 per cent. of the persons whom he tries to hypnotize, the insane excepted. The number of practitioners who have busied themselves with the suggestion treatment, or with the scientific investigation of the question according to the Nancy method, has greatly increased since the first edition of this book appeared, and I know that all of these gentlemen will bear me out in what I have stated.

midway between the other two already dealt with. It is true that no "fluid," no "spirits," are conjured forth; but an attempt was made to trace some, if not all, of the phenomena of hypnosis to known elementary forces, without the intermediation of psychical activity. The influence of peripheral stimuli from without on the nerve endings is accredited with a principal part, and thus again the necessity of an outer agent partly appears in the foreground.

It was the Charcot school or that of the Salpetrière in Paris before all others which believed in a direct hypnogenous influence of the metals and of the magnet on the nervous system (without the intermediation of conceptions), which believed in a conveyance (carrying over of a paralysis, catalepsy, or of hemianæsthesia, etc., from one side of the body to the other by means of the magnetic influence), in a direct stimulation of the localized motor cortical centers by stroking the scalp, etc. This school believed that typical different stages and kinds of hypnosis can be produced by means of different peripheral mechanical stimulations. These stimulations include (1) fixation of the vision, (2) raising of the lids, and (3) stroking of the forehead. The forms of hypnosis corresponding to these would be lethargy, catalepsy, and somnambulism, and these would be associated with specific intrinsic reactions of the muscles and of sensation—*e.g.,* the so-called *hyperexcitabilité neuromusculaire.* It is important to emphasize that the Charcot school believed that the hypnotized in the condition of lethargy were completely unconscious, and that they could not be influenced by suggestions, which one imparts to them through the organs of sense by means of representations. This school further believed that the hysterical alone were capable of being hypnotized, and included hypnosis among the neuroses.

It was Bernheim who demonstrated most strikingly what a confusion of ideas had arisen from this theory. All facts which have been demonstrated year after year on the few prepared hysterics in the Salpetrière can be easily explained by long practised suggestions, which had become in part unconceived and automatic, since, for example, the alleged lethargist hears and employs psychically to a great extent all that which is said

and done in his presence. Braid's fixing of a shining object, to which so much importance has been attached in Paris and in Germany does not produce hypnosis by itself. When anyone is hypnotized by this inefficient method, the result is achieved by the conception that this procedure must send him to sleep, and not by the procedure itself. The latter generally only produced a nervous excitement, and occasionally also hysterical attacks in the hysterical. At most, in a few cases, tiring and the falling of the lids might act unconceivedly as a suggestion, just as in very susceptible persons any means of producing hypnosis leads to the desired result.

It was formerly a common practice to awaken the hypnotized by blowing in the face. I have not employed this method for a long time, and, on the contrary, have combined blowing with the suggestion that headache should disappear and the like. In this way, I can blow in the faces of my hypnotized patients as much as I please, but not one will be awakened thereby. This is an argument against the alleged action of such mechanical stimuli put forward by the "somatic" school, which regards blowing as the specific awakening stimulus.

Liébeault himself reported on forty-five cases in which he claims to have obtained extraordinary good results by laying both his hands on the affected part in young children.[1] Thirty-two of the patients were children under three years of age, and Liébeault considered that he could exclude suggestion at this age. However, Liébeault has lately been forced to admit that he misinterpreted the facts at the time.[2] Following the advice of Bernheim, he substituted for the hands first "magnetized" water, and later not magnetized water, telling the parents and nurses of the children that the water was magnetized, and promising a cure definitely. He achieved equally good results in this way. The results can only be explained by accepting that the persons around the children were unconsciously influenced by Liébeault's suggestion, and the children in their turn received the suggestion from those remaining with them.

[1] Liébeault, "Étude sur le Zoomagnetisme." (Paris: Masson, 1883.)
[2] *Item*, "Thérapeutique Suggestive." (Paris: Doin, 1891.)

Lastly, one must mention the presumed action of medicaments *à distance,* or of applying hermetically sealed vessels containing medicaments to the neck, etc. (Luys and others). But the magnificent results reported by Luys to the Commission appointed to inquire into the matter proved a miserable failure when all unconceived suggestion was removed. They showed that a great lack of criticism had been exercised, and, above all, that nothing was done to exclude the possibility of suggestion, which could explain the whole situation.

Following the desire of my friend, Professor Seguin, of New York, I imitated with his assistance Luys' experiments with the closed medicine-bottles on four of my best somnambulists. Professor Seguin had himself witnessed Luys' experiments. The result was absolutely negative, as I had confidently expected. The following, however, is interesting: I asked a hypnotized lady, who had the alcohol bottle applied to her neck, and who had up till then declared that she felt nothing, if her head did not ache. She answered, "Yes." Then I asked if she did not feel giddy, as if she were drunk, and immediately she answered in the affirmative, and began to show signs of drunkenness. One can thus see how a single insinuating question may act suggestively. I need scarcely mention that I have produced all the symptoms of certain drugs, even vomiting, immediately by suggestion with spurious or empty glasses (as a control experiment).

If we consider the third group of theories collectively, which theories aim at being somatic and rational, we find that they are the most unfortunate of all; that they have created the worst confusion, and all the facts on which they lean are explainable by suggestion. The chief error of these theories lies in the fact that their results are mostly based on observations on hysterical persons. Now, the hysterical are, firstly, the most unreliable persons in existence, and are the most delicate (because they are the most unconscious) malingerers and comedians. Nextly, the hysterical are persons who apperceive sensually most delicately, but at the same time possess, as a rule, extremely plastic imaginations, which make them, it is true, very suggestible, but actually much more "autosuggestible."

Lastly, the hysterical are inclined to catalepsy, to lethargy, and to fits. Charcot's cases were only prepared hypnoses in the hysterical.

One must call special attention in this place, in reference to what has been said in the first two chapters, to the blunder which Charcot's school made in opposing the terms "somatic" and "psychical" to one another, and in emphatically claiming scientific argument for itself alone, because it fancied that it had found somatic landmarks. The contradiction which lies in despisingly refusing to take psychical activities—*i.e.,* perceptions—into consideration, although one refers everything that is psychical to brain activity, does not speak well for the "somatic" theorist. They always forget that all that is psychical—*i.e.,* that every contents of consciousness—is at the same time "somatic."

Dumontpallier, the special supporter of Burq's metallotherapy in Paris, adopted for the most part the views of the somatic school, as did also the Berlin physiologist Preyer, who, according to his book on hypnotism (1890), accepted Braid's views on the main questions, but dealt with suggestion as a chapter in hypnotism, as a sort of subsection of the latter, just as Charcot's school regarded it, and only lightly touched on the merits and investigations of Liébeault and Bernheim; while Danilewsky demonstrated brilliantly that the hypnosis of animals is absolutely homologous to that of human beings, and is based, as Liébeault had also stated, on suggestion—of course, meaning on a suggestion which is adapted to the psychical capabilities of the animals.[1] Preyer persisted in his theory of cataplexy—*i.e.,* rigidity from fright. He further persisted in his lactic acid theory of sleep, and believed that those cases in which hypnosis is produced with lightning rapidity—as, for example, is always the case with my hypnotized—are cataplexy and hypnosis; but forgets completely to explain the cases of somnolency and prolonged sleeplessness. Preyer goes as far as to call hypnosis a neurosis, just as Charcot did. In another place he admitted the most intimate relationship of hypnosis

[1] "Compte rendu du Congrès international de physiologie psychologique, Paris, 1890," pp. 79–92.

and normal sleep; but we will not deduce from this that Preyer considered that normal sleep is a neurosis.

However, one has not heard anything of Charcot's theory since his (Charcot's) death, and one may regard it by this time as having been finally buried. I have only discussed it for historical reasons.

There is, therefore, only one theory which stands in accord with the scientifically assured facts of hypnotism, and which explains the same satisfactorily, and this is the suggestion theory of the Nancy school. All the others are built up on misconceptions.

We need, therefore, only deal with the idea of suggestion and of suggestive sleep, which means the same as the idea of hypnotism.

Terminology. — The terms "animal magnetism" and "mesmerism" must be handed over to the fluid theory.

One can term that science, which embraces all the phenomena connected with conceived and unconceived suggestion Hypnotism (Braid). Hypnosis is best defined as the altered condition of the mind of a hypnotized person, and especially during the suggestive sleep. Bernheim[1] defined hypnosis as "a particular psychical condition, which one can produce, and in which the suggestibility is increased." The Hypnotist is the person who produces the condition of hypnosis in another. One can also call him "Dictator." By suggestion (dictation) one means the production of a dynamic change in the nervous system of a person, or of such functions which depend on his nervous system, by another person by means of the calling forth of representations (be they conceived or unconceived) that such a change is taking place, has taken place, or will take place. This is in accordance with the teaching of the Nancy school. Verbal suggestion, or "persuasion," may be taken to express suggestion produced by spoken words. Suggestibility is the individual susceptibility toward suggestions. Many persons are extremely suggestible even in the waking condition (suggestive condition during wakefulness). The conception of hypnosis in this respect can scarcely be limited, since the normal condi-

[1] Bernheim, Congrès de physiologie psychologique.

tion of these people during waking passes by imperceptible degrees into the condition of hypnosis. Every one is, however, to a certain extent suggestible during the period of waking. Autosuggestion is the suggestion which a person produces consciously or, as is more common, unconsciously in himself (Bernheim).

The conceptions "suggestion," and especially "autosuggestion," can easily merge by means of a too great expansion into the conceptions, impulse, intuition, belief, automatism, and the like. As a matter of fact, the differentiation becomes difficult. The conception of suggestion can be more sharply limited by including the actively moving, suggesting hypnotist (the linking of one person to another, or the *rapport*). Still, if the hypnotist acts unconsciously—as when someone else is suggested by my yawning—or if the suggestion is produced by some object—object-suggestion of Schmidkunz—the conception of this condition merges already into that of autosuggestion. The latter, therefore, runs the risk of being expanded in such a way as would lead to misunderstandings and false interpretation of former truisms and investigations.

It is almost as difficult to differentiate the conception of suggestion from that of the influencing of people by other persons, by logic, argument, thoughts, reading, etc., for a sharp line of demarcation does not exist. One could narrow down suggestion to the limits of intuitive influencing, in contradistinction to the influencing through reasoning; but that which appears to us to be influencing on logical grounds generally depends much more on feelings of sympathy and antipathy, on personal trust, on the tone or the convincing manner of speaking, than on the real intrinsic value of the reasons, so that even here the suggestive element has crept in unnoticed. The higher plasticity of reason, which adapts itself to the other powers in an extremely delicate way, often forms a resistance against suggestion. The brain automatisms themselves, which we scarcely recognize, or do not recognize at all, are the factors which, dissociated (as in a dream), loosened, and again having become plastic, obey more or less blindly the insinuating strange command in suggestion. And thus the conception of suggestion

merges into the conception of intuition, in which, as is well known, feelings and pictures of imagination play a leading part.

Suggestion and hypnosis, taken as phenomena and energies, are as old as the human race, and phylogenetically much older, since they occur also in the animal kingdom. But only two acquired factors are new: (1) The advent of the recognition of the phenomena, of their causes, the condition on which they rest, their importance in the consciousness of human beings, and especially of the scientific man. This is no longer, as it was formerly, a dubious mystery, but is now a scientific truth. (2) The astonishing ease with which hypnosis can be produced in nearly every person by means of Liébeault's method.

Both these factors lend a new therapeutic and forensic importance to hypnotism.

CHAPTER IV

SUGGESTION

1. Hypnotizability or Suggestibility.—Bernheim wrote in 1888:[1] "Tout médecin d'hôpital qui dans son service clinique, n'arrive pas à hypnotiser 80 pour 100 de ses malades, doit se dire qu'il n'a pas encore l'expérience suffisante en la matière et s'abstenir de jugement précipité sur la question." I can fully endorse this sentence. The statistical records detailed above agree entirely with it. Still, one could justly substitute ninety per cent. for eighty per cent.; but one must except the insane from this percentage.

Everyone is naturally more or less suggestible, and thus hypnotizable. It is true that some people boast that they only believe that which their reason proves to them to be clear and consciously logical, or at least which it has rendered very plausible. Such persons, however, only show herein that they lack the most elementary self-criticism. Unconsciously and hypoconsciously, we constantly believe in things which do not exist, or only exist in part. For example, we believe without question in the reality of the perceptions of our senses, which, however, primarily depend on an edifice of conclusions, with the help of which the sensations are formed. Hence, we are deceived almost regularly by false perceptions (hallucinations). Everyone experiences disappointments, places his trust in other persons, in maxims or systems which do not justify his confidence, etc. These are proofs that we are intuitively credulous, for otherwise our thinking would not be possible. We would never think or do anything, from sheer hesitation, if we would wait until each reason for our thoughts or deeds were mathematically or even only sufficiently inductively proved before we could

[1] Bernheim, *Revue de l'hypnotisme*, May 1, 1888.

accept them. We, however, neither think nor act without having a certain feeling that our thoughts and deeds are right, without being able actually to believe in them. The dynamisms (arranged energy complexes) which cause belief and intuition are complexes of brain activities, which to a great extent—at least, momentarily—take place below the level of the mirror of our superconsciousness. And it is here that we find the explanation of suggestibility.

When we long for something very much which we do not possess, a contrast impression of the unattainability of our wish not infrequently presents itself all the more intensely. This psychological condition becomes especially marked in the longing for subjective feelings. If we wish to force them to appear, they disappear. If we attempt to force sleep consciously, we remain sleepless. It we attempt a coitus in the same way, we become for the time impotent. In a similar manner, if we attempt to force ourselves to be pleased we only become annoyed, and so on. And the more force the superconscious will attempts to exercise, the greater will often be the defeat, while the same longed-for feelings appear quite by themselves as soon as one can give in to belief without concentration, especially when one has recourse to the assistance of corresponding conceptions of the imagination.

The person who wishes by all means to be hypnotized, who longs for hypnosis, who has a clear idea of its nature, and wishes for the results of suggestion, cannot divert his attention from the psychological processes, and is difficult to hypnotize or is unhypnotizable. This holds good, at all events, as long as he cannot be distracted or rendered psychically passive. The more frequently and the more energetically a person endeavors to become passive, the more certainly will he fail; but it is more especially intense mental excitement, fear, all alterations of temper in general, mental disturbances, and a definite resolve to resist the hypnotist, which render, as a rule, hypnosis impossible. When the first hypnosis fails, I seek for hidden disturbances, which I usually find; then I soothe the patient, and the hypnosis succeeds. Every mentally healthy person is more or less hypnotizable, only there are certain temporary conditions

of the mind—*i.e.*, of the cerebral activity—which can prevent the hypnosis.

It used to be said that those people who do not want to be hypnotized cannot be hypnotized—at all events, at the first attempt. In my opinion, one should not rely on this statement too much, for it is based more or less on the psychologically erroneous assumption that the freedom of the human will is essential. A person must be able not to will in order that he may actually and willingly not will. But suggestion acts most quickly and with greatest certainty by surprising the imagination, by taking it unawares. We have just seen how it is disturbed by a protracted premeditation. An easily suggestible person, who has never been hypnotized before, can be converted into the relatively "will-less" puppet of another person in a few seconds. I have often noticed that in response to a sort of contrast action such persons who make fun of and laugh at hypnotism, and openly assert "that no one can send them to sleep," are just the ones who are most rapidly hypnotized if they do not offer direct resistance, and at times even in spite of the offered resistance. It seems as if the challenge given to hypnotism creates in them, in opposition, an uneasy idea of their own uncertainty, which exposes them all the more surely to hypnotism. This is just the reverse of the failure of hypnosis in persons who long for it, and are afraid that it will not succeed with them.

On the other hand, unprejudiced, uneducated persons are, as a rule, particularly easy to hypnotize by suggestion, without that which one intends to do always being noticed by them. They act and believe all that is suggested to them, and go to sleep in one or two minutes before they know what is happening, and often even after they have been of opinion that others who have been hypnotized a moment before are malingerers and the doctor a dupe. The majority of the insane are undoubtedly the most difficult to hypnotize, because the pathological permanent condition of irritation of their brain supports a constant relative tension of the attention on the impressions of the patient, which robs the suggestion of nearly all the paths of entrance and of all power.

Another important fact is that one can not infrequently influence by suggestion a normally sleeping person and transport him into hypnosis without awakening him. It is still easier, in the reverse direction, to transform hypnosis into ordinary sleep by suggestion.

Lastly, there are some extremely suggestible persons who, on being taken unawares when wide awake, show all the phenomena of hypnosis without first going to sleep, or can completely fall a prey to the suggestion of a skilled hypnotist. The want of will does not come into consideration in this case. One may at times even succeed in this way with a person who has never before been hypnotized.

As a rule, the sleep produced by suggestion represents the principal factor in the induction of the full action of suggestion. It acts like an avalanche does at the first contact which causes it. The more it grows, the more powerful do the contacts become which the avalanche causes. Sleep or slumbering is produced by suggestion. But as soon as this is present, the suggestibility is increased by sleep, as long as the latter does not become lethargic.

As I mentioned before, every person is in himself suggestible. When one fails to hypnotize a person, the reason must be sought chiefly (and one can be certain of this) in the fact that he either consciously or unconsciously calls forth the autosuggestion that he cannot be hypnotized. Still, the formation of this autosuggestion depends on the individuality of the person. It occurs often in hypercritics and skeptics, and thus one might say that there are very suggestible and also slightly suggestible natures.

Professor Bernheim communicated to me the following case from his clinic privately, and permitted me to publish it here:

"A few days ago a peasant woman was admitted into my wards complaining of gastric and abdominal pains, which I regarded as being of hysterical nature. I was unable to hypnotize her. She told me, too, that Dr. Liébeault had attempted to hypnotize her in childhood, but without success. After two unsuccessful attempts, I said to her: "It is immaterial whether you go to sleep or not. I am going to magnetize your abdomen, chest, and stomach, and in this way drive away the pains." I

closed her eyes, and in this way continued for about ten minutes to suggest. The pains disappeared without sleep, but returned again after supper. I repeated the same procedure on the next day, with the same result. The pains returned mildly in the evening. To-day I did the same thing over again, and obtained, at the same time as the pains disappeared, a deep hypnotic sleep with amnesia."

Since then I have repeatedly employed similar tricks, and have obtained similar results. It is the simplest way of influencing apparently refractory patients.

Bernheim further adds: "Everything depends on the right inspiration; one has only to discover the right key (il faut trouver le joint) in order to set every individual suggestibility into action—that is, to awaken the suggestibility."

I can only endorse this sentiment. Bernheim once failed to hypnotize a person, and it was afterwards discovered that this person had been hypnotized by Beaunis, who had suggested to him that he alone could do so. I myself induced a deep sleep with post-hypnotic suggestions in a certain lady, but Bernheim was only able to produce sleepiness in the same lady. This was due to the fact that she formed the autosuggestion that I alone could influence and cure her.

It is beyond question that the best hypnotist is he who best knows how to convince those persons whom he intends to hypnotize of his capability of carrying this out, and who is more or less able to induce an enthusiasm for the subject. Thus, enthusiasm is an important factor for the hypnotized as well as for the hypnotist; for one must either be convinced one's self, or, failing this, possess dramatic talent, in order to convince others satisfactorily. But it is the achieved result, the truth of the fact, which induces the greatest enthusiasm both in the passive and in the active party to the contract. The hypnotic epidemics, which have been so much talked of and so misinterpreted, the mass suggestions, the "infection" of hypnotism, depend on this psychological process. Everything which fills us with enthusiasm gains power over our brain activity, easily conquers all the contrary impressions, and suggests to us by means of the stimulation of corresponding plastic pictures of the

imagination. Thus, the hypnotizability or suggestibility of a person increases with his enthusiasm and with his confidence, as well as with the enthusiasm and the successes of the hypnotist. And, in the corresponding manner, it sinks with the abatement of the enthusiasm, with mistrust, and with failures. Still, many other individual factors also assist, and especially individual plasticity and intensity of the impressionability, exhaustion, sleep capability, etc.

Wetterstrand and Oscar Vogt have especially advanced the development of the methods of therapeutic suggestion.

Wetterstrand laid great stress on the depth of the sleep, as did Liébeault, and practiced the method of protracted sleep (continued for days) in obstinate cases with great success. He further developed this method. He hypnotized his patients together in one half-darkened room, and whispered the suggestions into the ear of each, so that mutual disturbance could be avoided. The whole picture acted in a manner powerfully suggestive on all present.

Oscar Vogt rendered psychological analysis considerably more sound. He, in common with Liébeault, Wetterstrand, and myself, adopted Delbœuf's views, that the depth of the sleep increases the suggestibility, as long as the connection is maintained. Only once did he experience the loss of the connection, by means of lethargy in a mildly hysterical female. This has occurred to me four times in each sex.

Vogt's method is roughly the same as that which I shall describe presently. Only he avoids all excitement of catalepsy and automatic movements. He simply suggests the component parts of sleep (see below). He carries out hypnosis for the first time quite shortly, and gets the patients to relate what they felt.

He distinguishes hypotaxis with amnesia from somnambulism, and defines this as those cases in which the hypnotized still knows that one is speaking to him, but does not know what one says.

Vogt obtained somnambulism ninety-nine times, hypotaxis with amnesia twelve times, hypotaxis without amnesia six times, and somnolence twice, out of one hundred and nineteen

cases (including sixty-eight women and fifty-one men). Not a single case showed itself as being refractory. Among them there were even some insane patients. Somnambulism was produced in all the mentally healthy persons. He says:

"I can assert, on the basis of my experience, that somnambulism can be produced in every mentally healthy person; temporary impeding elements can always be overcome with patience. In order to investigate the suggestibility of those whom I rendered somnambulant at the first sitting, I used the production of anæsthesia by waking suggestion. At first I gave the sleep suggestion previously, that I should succeed in the waking suggestion. I succeeded in this way in obtaining anæsthesia in the waking condition thirteen times out of fourteen. I omitted the sleep suggestion, and later obtained anæsthesia seventeen times, analgesia twice, and in three cases there was no result.

"I wish to point out in this place that the suggestive anæsthetic skin shows just as little tendency to bleed as does the hysterical anæsthetic skin.

"I have succeeded in producing a motion of the bowels at once in twenty-one out of twenty-six attempts. At times this was only achieved after several attempts, but it often occurred at the first trial.

"In seven attempts to stop menstruation immediately, I was successful in all, but in four cases the result only lasted for some hours.

"Among four attempts to bring on the period, I was unsuccessful twice, while in the other two cases the menses appeared two days later. I do not, however, claim that this was a result of the hypnosis.

"The relationship between suggestibility and the results of therapeutic suggestion is a very meager one. This cannot be emphasized sufficiently in opposition to the view generally held. The retention of temporarily successful suggestions is quite another psychical characteristic than suggestibility.

"Let me place two extreme cases side by side:

"A patient has been suffering for a long time from a hypochondriacal delusion, which is connected with symptoms of

sexual irritation. The patient remains still hypotactic after a number of sittings. Automatic movements scarcely succeed, and amnesia fails entirely. In spite of this, I am able to remove his delusion permanently in a single sitting.

"Another patient presents himself with the sensations of traumatic hysteria, the somatic appearances of which had already disappeared. This patient was one of the most suggestible persons whom I have ever hypnotized. All the complaints disappeared after the first hypnosis. At the same time, hallucinations for all the senses by waking suggestion succeeded. The patient did not have any further symptoms during the remaining fortnight of his stay here. For prophylactic reasons, he was hypnotized three times more during this period, and then discharged. He had a complete recurrence only three days later. The patient was so suggestible that he reacted to every influence at once. He had associated the symptoms of his illness so intimately with the conception of his home during the months of lying in bed that his return home recalled the sensually active remembrance of the symptoms. This last mentioned is the psychological definition of the recurrence.

"There is a large number of such cases. I am treating a neurasthenic and two hysterics. The sight of me is sufficient to make them well for days, but no form of suggestion has a lasting result.

"The old proverb 'Slow but sure' holds good even in psychotherapy.

"I succeeded in removing constipation in persons who were little suggestible, and in obtaining a daily stool at a fixed hour. The suggestion of an immediate motion remained in these cases without result. On the other hand, I am able to achieve at any time an immediate motion in an easily suggestible patient who is not an hysteric; but a regulation of the bowels for the next days or for a longer period never succeeds. The results of other suggestions in the same patients tally well with these results.

"Certain autosuggestions of the hysterical are deserving of a special mention. Ringier was the first to call attention to them. There is one class of severe hysteria in which therapeutic suggestions only make the symptoms worse. Two hysterical

patients of this class were accustomed to have a daily stool at irregular times. An immediate evacuation was producible in the one by waking suggestion, and in the second by sleep suggestion. I wished to insure the motion for a definite time of the day, for the purposes of a certain series of experiments. I induced in both a very obstinate constipation.

"This phenomenon depends on the fact that part-impressions of the complex of impressions called into existence by suggestion activize brain dynamisms, which are already in a condition of tension, as a result of irritability, before the remaining components of the suggestion can exercise their inhibiting influence.

"I append two suitable cases in illustration of this:

"An hysteric suffered from attacks during the past fortnight. Hypnotic treatment only increased the number of the attacks, inasmuch as during or after each sitting an attack took place. Later, the patient herself gave me the explanation. Her lover had taken advantage of her during anæsthesia. Three days later the lover poisoned himself. On receiving the news of his death, the first hysterical attack took place. 'Hypnotic putting to sleep always reminded me of the previous narcosis,' she said; 'it all came back to me, and I became afraid, and so a fit took place.'

"Another hysteric suffered from periodical conditions of clouded intelligence. These conditions were preceded by lively variations of mood. I hypnotized this patient in this condition, and made the suggestion that she would have no more attacks. But lo and behold! an attack took place. The word 'attack' produced it. In spite of this, the other components of my suggestion made themselves apparent. The attacks had a much less severe character than all those which had been formerly observed.

"The same sort of influence of suggestion, which is rendered partly favorable and partly unfavorable through different forms of associative connection, could be still better observed in the same patient during the course of the earlier attacks. I had given the patient an injection of hyoscine at the beginning of the condition of mental clouding. This quieted the patient

sufficiently, so that I could hypnotize her and free her from the condition rapidly. The dryness of the throat produced by the hyoscine had led in the meantime to the autosuggestion of an anæsthesia of the oral cavity, with a paralysis of the tongue in consequence, an ageusia, and a motor aphasia. Within three days all the symptoms had been removed by suggestive therapy; only an aphonia still remained. The last named resisted all suggestion for four days. At length I attempted the removal of the symptom by a suggestive amnesia for the whole speech disturbance. On awakening, the patient had a complete recurrence. She was again aphasic, and performed smacking movements with her tongue, as she had done all along. She pointed with her fingers to her throat, and then suddenly called with a loud voice for 'water.' She drank a whole tumblerful at one draught. In a few moments the speech disturbance was gone. My suggestion had, therefore, at first called forth the somewhat vivid recollection of the illness from which she had just recovered, and even included the dryness in the throat; then the remembrance of the healthy period was also awakened. This, which represented a much more powerful impression complex, gradually gained the upper hand. In this way the favorable action of hypnosis conquered the unfavorable action.

"The relation between the suggestibility and the retention of suggestions, as well as between these phenomena and the remaining aspects of the mind, must be the object of further study."

2. Sleep and Hypnosis.—I attempted to illustrate the relationship between the hypoconscious and the conscious brain activity, and thus to explain the action of suggestion, by means of the following examples in my book on the sexual question.[1]

I am thinking of my wife. This thought calls forth another of a journey which I am about to make with her in a week's time, and the idea of the journey again leads to a third thought at once—of the box which has been chosen for the purpose. With almost lightning rapidity three ideas follow one another in consequence: (1) My wife; (2) the journey; and (3) the box chosen for the journey. Apparently, and also according to

[1] Forel, "The Sexual Question." (Rebman Company, New York.)

scholastic teaching, the idea of the journey is awakened by the idea of my wife, who is to go with me, and the idea of the box is awakened by the idea of the journey, and is so produced. But it soon becomes apparent that the sequence of our conscious ideas cannot be explained in such a simple manner, since a number of ideas crop up which do not stand in any logical connection with those mentioned, or which cannot possibly be caused by them nor by any external perceptions of the senses. One has accepted, from the want of knowledge of our brain and of its activity, that we possess a mind which can soar freely, and also a free will, both of which are supposed to follow an existence of their own, and to govern our mental lives independently of the law of causation. This assumption, however, depends on want of knowledge. But let us return to our example.

Why does the idea of my wife recall just that of the journey? It might just as well have awakened (ecphorized) another thought. In reality, a large number of other hypoconceived ideas—*i.e.,* of hypoconceived activities of my cerebrum—act on the production of the idea "journey." I had intended to go on this journey previous to this time of thinking about it, and this intention had left behind it hypoconceived slumbering impressions in my brain (engrams), such as the date of starting, the length of the journey, the object and the destination of the journey, the arrangements for the household while we are both away, the things which we are taking with us, the cost of the journey, and so on. During the extremely short space of time, in which the idea "journey" appears between the ideas "wife" and "box" in my brain, all these things cannot enter into my consciousness. They stand, nevertheless, in so-called associative connection with these ideas—that is, are linked by a thousand threads of a latent hypoconceived brain dynamic in the brain cells and fibers to the idea "journey." For this reason, they call the idea before the conceived field of the attention, but at the same time muffle the intensity of the pure conception of the journey by its various kinds of interlacing, and thus prevent all the possible, more direct impressions and ideas in connection with the journey from being recognized more

powerfully in themselves. That which appeared so rapidly in my consciousness is the hazy general conception of my journey pictured by the word "journey." By means of speech, with its words, I am able to condense the complicated general ideas in such an abbreviated definite form. This flash of the brain "journey" which followed the idea of my wife was not actually caused by this idea alone. It was brought into the light of the superconsciousness chiefly by numerous hypoconceived threads, and at the same time its quality was definitely settled. These hypoconceived threads determine at the same time the particular kind of the following ideas of the chosen box, which are apparently alone produced by the idea "journey," although I know nothing of it. The idea "journey" might just as well have called forth other thoughts, such as the acquaintances whom I may meet, the town to which I am going, etc. But why should it be the box? Because the choice of the things to be taken, with the space which they will occupy, etc., exercised my mind very intensely, and suppressed for the moment all the other associations.

We can see by this simple little example that the three conceptions, "wife," "journey," and "box," are scarcely able to govern each other causally, although they follow each other in point of time in my consciousness; but all three are produced under the influence of hypoconceived feelings, conceptions, and former resolutions, which in their turn were caused by very complicated preceding manifold activities of my brain.

I shall attempt to make the matter more concrete and more comprehensible by means of a comparison. Suppose a person is standing in a moving, dense crowd. He calls out something very loudly to attract the attention of the mass to himself. His voice is heard in the immediate neighborhood, but dies away without producing any further effect farther afield in the excited crowd. This person is carried by the throng against his will in the direction toward which the chief faction of the mass is moving. He resists in vain. But if the crowd were to stand still and be quiet, the same individual might be able to gain a hearing, might perhaps be able to wend his way through the mass, and might possibly be able partly or wholly to carry the

people with him by the influence of his words and voice. The same may be applied to the influence of an individual conception, according to whether it is produced in a markedly associated brain in the condition of active wakefulness, or in a brain in a resting, dosing condition. The markedly associated, actively awake brain is likened to the excited crowd, which carries everything with it in its rush. The individual conceptions, compared with the individual person, can shout to their heart's content—that is, may come forward ever so intensely. If they have not previously gained a powerful hold over the mass (the brain), which can be reawakened by memory, and in this way strengthened in their action, they will be carried along with it—that is, their own individual action will be suffocated. The resting or even dosing brain—*i.e.,* the weakly associated or inactive brain—may be compared to the quiet crowd. A conception in this case, even if it is new, and does not yet possess any roots in the memory, may influence more deeply, may forge a new path for itself, and may give rise to particular movements in this direction. But if it has previously repeatedly carried the crowd with it—that is, the collected, associated brain activities—and if the crowd has got accustomed to follow it, it may possibly be able to gain a hearing in the midst of the excitement.

The relationship of hypnosis to normal sleep is unmistakable, and I agree with Liébeault when he says that the former is only distinguishable in its essence from the latter by the fact of the connection between the sleeper and the hypnotist. But one must not confuse the term "sleep" with the term "exhaustion." Besides, two different ideas are unfortunately mixed up unclearly in the term "tiring": the subjective feeling of the tiring and the objective exhaustion. Both these do not by any means always fall together. Sleepiness and the subjective feeling of tiring are also by no means identical, although they are often associated. I may perhaps be permitted to state some important facts here.

Physiology is wont to say that sleep is produced by tiring, but this is incorrect. Even if true exhaustion of the brain usually calls forth a subjective feeling of tiring, and the latter

is usually associated with sleepiness for its own sake, we must maintain in opposition to this: (1) that extreme exhaustion often creates sleeplessness; (2) that one often becomes more sleepy from sleeping; (3) that feelings of tiring, sleepiness, and real exhaustion often appear entirely independent from one another; and (4) that sleepiness usually appears at definite, habitual (autosuggested) hours, and disappears in spite of increasing exhaustion, when one has overcome it.

The facts are quite unexplainable by the very unsatisfactory chemical theories of the physiologists (the lactic acid theory of Preyer, etc.). For my part, I have never been able to determine the soporific action of lactic acid, and regard the alleged confirmation of this action as suggestive. I have achieved incomparably better results with spring water, together with suitable suggestion.

The physiologists (Kohlschuetter) have attempted to measure the intensity of the sleep by the measure of the sound required to awaken. How little one proves by this is shown by the fact that an accustomed noise soon fails to awaken, even if it is very loud—*e.g.,* an alarm—while soft unaccustomed noises awaken at once. Many an anxious mother is awakened by the faintest noise on the part of her child, while she is not disturbed by the snoring of her husband or by some such accustomed noise.

Silent processes, as well as tedious, monotonous processes, which do not require a change of conceptions, make us sleepy; and comfortable positions of the body and darkness do the same. Associated phenomena, such as yawning, nodding, stretching the limbs, which increase the subjective feeling of sleepiness, and which, as is well known, are very infectious, also play a part.

I stated that the habit of going to sleep at a particular time calls forth a powerful sleepiness daily at that time; but certain places, the voice of a certain person, lying back in an easy-chair in which one is accustomed to go to sleep, listening to a sermon, lying in a certain position, a horse-hair mattress for one person and a feather bed for another, etc., and, above all, the closing of the eyelids, are all very common sleep-bringing

means. Why is this? One has hitherto called it habit, "associated accustoming"; but we must recognize that these facts are absolutely analogous to an unconceived autosuggestion. My small two-year-old son has accustomed himself to go to sleep with a handkerchief in his right hand held up to his face. He could not sleep for a long time when we took it away from him. Some people can only sleep after certain things have taken place (after reading, winding up a watch, etc.).

But the most powerful of all these associations is the closing reflex of the orbicularis. For this reason this is the best suggestion for sleep.[1]

[1] Von Schrenck-Notzing—"The Significance of Narcotic Drugs in Hypnotism" (*Schriften der Gesellschaft für psychologische Forschung*, Leipzig: Abel, 1891)—considers that one should accept that our natural sleep and hyponotic sleep are different, because the oxidation products (tiring products!) are accumulated. He gives as a proof for this, among others, the impossibility of resisting sleep after great exertion. But we do not deny the influence of the oxidation products, which are produced by a prolonged waking activity of the brain, and we, too, emphasize that the dissociated or relative condition of rest of the brain in sleep is suitably fitted for the production of the necessary chemical syntheses—*i.e.*, for the reintegration of the brain. We realize that exhaustion of the brain normally can form the strongest associative cause of the suggestion of sleep, and when this has reached a considerable pitch can act irresistibly. When we say that the suggestive actions are produced by conceptions, we are perfectly aware that the conceptions in their turn are always dependent on the physical and chemico-physiological (and also pathological) conditions of the brain elements. The form of the brain changes in the melancholic calls forth, for example, by the means of association, his ideas of self-accusation. The facts mentioned above prove very clearly that normal sleep usually takes place rapidly and as a result of suggestion. One is therefore compelled not to identify it with suggestion, although one recognizes the adaptation of sleep to exhaustion of the brain and the usual association of sleep with the same. The suggestive action is therefore just as physical as are the changes in the brain produced by the products of exhaustion, and one must not deny that the latter furthers the mechanism of sleep as a rule. That normal sleep without the hypnotist and without exhaustion can set in in precisely the same way as it does in hypnosis is certain, and proves that this condition of activity of the brain is a thing in itself, and that exhaustion is quite another thing. There is no doubt that the accumulation of carbonic acid in the blood produces more extensive respiration, and that in consequence we cannot hold the breath for any length of time. But this does not prove that the respiratory movements are alone dependent on the carbonic acid in the blood, and still less that the accumulation of the carbonic acid in the blood and respiratory movements are identical processes. We know that the latter are produced by muscles and motor nerve centers, and that even our will (our brain) can accelerate and stop them. The acceleration of the respiratory movements from accumulation of carbonic acid in the blood is a much more direct, more powerful, and more intimate association than the production of sleep by exhaustion of the brain. But, nevertheless, it would never occur to us to regard the voluntarily produced (unnecessary) movements of respiration as belonging to a species different from that of those movements which are produced in asphyxia. The suggested sleep (hypnosis) and the natural sleep are not more essentially different from one another. The brain mechanism of both is the same, even if it can be set into action in different ways. (See also Sec. 10.)

When we observe a person sleeping, we notice that he moves, that he reacts to sensory stimuli, that he covers himself up again if one takes the bed-clothes away, that he not infrequently speaks, groans, or leaves off snoring when told to do so, and even that he answers when spoken to, and may get up and do things occasionally. Certain people sleep very lightly and very quietly, and awaken at the faintest sound. These people show more connection with the outer world.

We only know our sleep subjectively—that is, know the linking of the reflection of our waking consciousness—by the remembrance of our dreams. We feel that our dream consciousness is different from our waking consciousness, but that it approaches the latter more nearly the lighter our sleep is. The sleep consciousness can be differentiated, above all, from the waking consciousness by the following facts, as far as our dream consciousness permits the latter to gain an insight into it:

(1) Sleep consciousness does not show a sharp division between inner conceptions and perceptions. All conceptions are more or less hallucinated—*i.e.,* they have the subjective characters of perceptions, and simulate real occurrences.

(2) The sharpness and precision of the waking perceptions, which are produced by outer processes, are usually absent during these sleep or dream hallucinations. The latter appear, however, with very intense accentuations of feelings, and may exercise powerful reactions on the central nervous system. A dream can produce sweating, convulsive muscle contractions, extreme terror, etc. Erotic dreams produce pollutions without mechanical stimulation of the penis, while erotic perceptions during waking rarely can do this.

(3) The dream hallucinations are very faultily associated, in contradistinction to thinking and perceiving when awake. As a rule, only loosely connected outer associations link one with the other. The organized unconscious logic of thinking during waking, which becomes instinctive, and which is gradually automatized by the psychical dynamisms during the course of life, is not applicable to thinking in sleep. The brain obviously is in a condition of relative inactivity or inhibition during sleep. The most abject, consummate nonsense is there-

fore dreamed, is associated and perceived quite falsely as far as time and place is concerned in dreams, and is even believed in. As a rule, it is only during light sleep, and rarely during deep sleep, that a higher or lower degree of logical control is produced. At times this logical control exists side by side with the dreamed nonsense. It is as if two consciousnesses were present simultaneously—the one that of the dream chain, which believes in the nonsense; and the other that of the waking logical associations, which says: "No, this is all dream nonsense; I am lying half asleep in bed."

The three typical characteristics of the dream existence are, at the same time, the criteria of hypnotic consciousness. They are: hallucinations of perception, exaggerated feeling and reflex actions of the same, and dissociation of the organic logical associations of the engram complexes. They are the best foundations for a marked suggestibility.

Awakening, the reverse of going to sleep, shows the same suggestive phenomena as the going to sleep. One usually awakes at a certain accustomed time by means of associations. A light sleep frequently forms a gradual transition from the sleep to the awakening, and the remembrances of dreams are left behind. Dreams not infrequently awaken the subject. The capability possessed by many people to awaken at a definite chosen time is curious. Here time is exactly measured during sleep. We meet with the same thing in hypnosis.

Liébeault distinguishes in normal sleep, as in hypnosis, the light sleep, with recollections of dreams, from the deep sleep, which usually is not accompanied by such recollections. The characteristic of the latter is the total amnesia on awakening. But we find, nevertheless, that people who sleep deeply are just those who exhibit the phenomena of somnambulism and "sleep drunkenness," during both of which they can walk, do things—sometimes even ordered and complicated things—speak, and even exert violence. These are phenomena which have been recognized in jurisprudence as a ground for irresponsibility. This shows that the amnesia after deep sleep is only amnesia, and proves that the consciousness is by no means blotted out during deep sleep, but is only cut off from

the waking consciousness. Still, the lethargic sleep evidences itself in a different way than in somnambulism, with its narrowed consciousness; but one is not justified in deducing the existence of complete immovability of the cortex from the immovability of the motor area. Friedrich Heerwagen published under Kraepelin's direction in Wundt's "Philosophical Studies" his "Statistical Investigations of Dreams and Sleep," which is based on the personal statements of many people. The statement of those persons that they dream a lot, dream little, or do not dream at all, is, according to Heerwagen, to be accepted, and this forms the foundation of his statistics. But since the study of hypnotism and many experiences of normal sleep prove that one must not rely on these subjective recollections of dreams, or on the non-recollection of them, I cannot ascribe any value to these statistics, but believe all the more that everybody dreams continuously during sleep. Many people forget all their dreams, and the majority forget the greater part of their dreams (autosuggestion of amnesia). I cannot be awakened so unexpectedly at any time of the night that I do not catch on at all events the last portion of a dream chain; but I forget this immediately unless I write it down at once, or energetically reperceive it during the waking condition. That which remains, then, in my memory is the picture of the perception renewed in the condition of waking, and not the direct recollection of the dream, for the latter is almost always obliterated very soon after awakening.

A further peculiarity of the dream life is that the stimuli of the senses, which affect the sleeper, scarcely ever call forth the normal proper perception in the sleep consciousness. They are allegorized—that is, they are inadequately associated. This allegory becomes, in consequence, the dream picture, the dream illusion. The hypnotized person is in part only distinguishable from the spontaneous dreamer in that he is adequately conscious of the influences of the hypnotist. He allegorizes, it is true, just like the dreamer, as soon as the hypnotist leaves him, and, on the other hand, the hypnotist actually uses these allegory qualities of the sleeper in order to deceive him in a hundred ways—*e.g.*, in causing him to eat a potato in the belief

that it is an orange. In the same way, the normal dreamer imagines that he performs movements which he really does not perform, while he is usually not able to translate his impulses into movements.

A further peculiarity of the dream life is the ethical and æsthetic defect, or the weakness which is met with in this sphere. The dreamer is frequently a coward, and behaves badly. In a dream the best person can commit murder, steal, be unfaithful, and lie, and remain thereby quite calm, or at most feel more fear than remorse. This is undoubtedly due again to the dissociation of the opposing perceptions.

The mutual reactions of the dream life on the waking condition, and of the waking condition on the dream life, are extremely interesting and important. It is clear to all, and is well known, that the contents of the dreams are influenced by what we have experienced, read, etc., during the condition of waking; but it is not so clear to us to explain how deeply and strongly the dream activity reacts on our life in waking condition, in spite of the fact that much that is true has been written on this subject. But, as a rule, we are not conscious of it, on account of the amnesia. Post-hypnotic phenomena are an experimental homologue of the corresponding facts of spontaneous life. Vivid dreams can often influence our thoughts and dealings for days, just as stupid actions can, much more than the finest logic. It is amusing to make such observations on persons who make a boast of their sobriety and unsentimental reasoning. We only know of the actions of those dreams which we can remember, but suggestion proves to us that the forgotten ones also can act on us. This demonstrates most clearly that the brain activities which appear in the subjectively separated introspections (consciousnesses) stand in intimate connection with one another, and influence one another mutually.

My friend, Professor Otto Stoll, calmly stated to a man who smiled at hypnotism that he would dream certain things about the devil at midnight of the following day. The man obviously did not feel quite safe, for he attempted to remain awake in order to escape from the prediction. But what happened? Shortly before twelve o'clock he fell asleep in his chair, and

at the stroke of midnight he awoke just as that episode of the suggested dream was taking place at which he had been told to awaken. The dream had presented itself exactly as had been foretold.

A few examples of spontaneous dreams which had been written down immediately on awakening may help to illustrate what has been said:

1. *Dissociation.*—Someone dreamed that "the chief attendant, X., of the Zurich Lunatic Asylum, was delivering a lecture on 'Suggestion exercised on Horses' in Norway."

2. *Dissociation, etc.; Long Dream Chain.*—Miss Y. dreamed: "I was at home with my mother. An uncle came in, had dinner with us, and complained of cold feet, whereupon I placed a hot-water bottle under his feet. The hot-water bottle was there without my knowing how it got there, but this did not occur to me as being strange. Then several people (relatives) came in; it was a party. The table was spread; my uncle had disappeared. I helped to entertain the people, and had just begun to relate something when my mother interrupted me, and in a severe tone told me to hold my tongue —'You need not always interrupt.' Being very angry and offended (for I am no longer a child), I kept silent, with the firm resolve not to speak another word, but to let my mother entertain her people herself. The party was suddenly gone; other visitors had come, and I was talking to a cousin, but crying at times, for my sulkiness about the order to keep silence still continued" (continuation of effect). "My mother told a story, which had really been written to me a short time previously. Suddenly I found myself in a strange part of the town, and was seeking a lady who lived in a certain house. I made up my mind to search each room one after the other in this house, because I had not found her the last time. I did this, and went into each room, in which strange people lived, who were lying in bed, or just getting up, or hiding themselves. At last I found her; but it was another lady, Mrs. C., who was just then speaking French to a boy, and at once invited me to join in the conversation. I made a mistake in speaking, and was very angry with myself for it. Then suddenly Mrs. C.

changed into my friend, who took me out with her, as she wanted to show me a lovely view. We came to a bridge over a broad river. At the one bank we saw several covered baskets, half kept under water by planks, and I said to my friend that they were for keeping fishes in, I supposed; to which she answered: 'Yes; there the untamable fishes are kept.' (I was not astonished at this nonsense.) It was still broad daylight. We then turned back, and came to a large house, with many illuminated windows on the ground floor. Without having been conscious of it, it had suddenly become night." (This is the same mechanism as that by means of which a suggestion is amplified by autosuggestion—the perception of the lights called forth that of night unconsciously through association.) "A lurid smoke issued from a chimney of the house, and I said to my friend that the house must be on fire. We looked in at the windows, and saw that a number of men (workmen) were preparing to escape, and were only waiting to find out if there was any danger before they escaped. But all at once it was all quite dark; the fire had been suddenly put out. We had not noticed this, but we knew that it was so, and it all appeared quite natural to us. I could not see my way any longer, and asked my friend to lead me. She then lit a candle with a match, and we were in a room. A strange old lady came into the room and asked us something, when I woke up."

This dream shows very clearly that the reflection of the consciousness in the cerebral activity during sleep can be composed of a very variegated mixture of associated and dissociated imaginary perceptions of all the senses—of imaginary perceptions of actions, of feelings, of abstract ideas, etc. A continuous deception of the place and time consciousness arises also from it.

3. On October 25, 1891, I dreamed the following dream: "An unknown young man, who up to this time was Regierungsrath (a title given in appreciation of their services by the Government to their officials), is suddenly, without any reason, elected Director of the Burghoelzli Lunatic Asylum, without my knowledge, but he has not been made Professor of Psychiatry. In reality, I have been the Director of the Asylum

since 1879. I see this young man; they tell me about it in the asylum. The absolute impossibility of this fact does not strike me at all, and its consequences only appeal to me by degrees. The thought that I remain here in spite of the fact that the new Director is living next door to me does not appear to me to be inconceivable. It only gradually occurs to me that perhaps I ought to retire, and this idea is then discussed. All at once it dawns upon me that somewhere it says that the Director shall at the same time be Professor. However, I argue to myself that the Regierungsrath can repeal a regulation which he has previously made at any time by a later resolution. The matter is really controlled by statute, and cannot be altered by regulations, and in the waking condition I am fully aware of this. So there is no help. Then I triumph, after all. The matter is dealt with by statute, and I become suddenly aware of it. Thereupon I consult a lawyer, and prosecute the Regierungsrath for breaking the law!"

This dream is interesting on account of the kind of dissociation. The logic of the last reasoning, which in itself is correct, is exactly the logic of a general paralytic, who reasons correctly on one point, but overlooks the main consideration—that is, the absurdity, the impossibility, of the whole situation. The intrinsic effect of the thought is enormous. I did not harbor the thought for a moment that it could have been a dream. The meanness and injustice of the behavior toward me roused my indignation, and I yearned for satisfaction. "The Board Meeting is to take place on the following day (in my dream). It suddenly occurs to me that the new Director, and not I, will take part in it, and I feel humiliation at this intensely. I see the Regierungsrath coolly passing by without taking any notice of me, but I do not for a moment think of the absurdity of having been dismissed without any proper notice having been given me, or of the further absurdity that this new Director is already in the asylum without my having learned anything about it, or of the ridiculous idea that I could be dismissed from the post of Director, and not from the asylum. I even think, quite innocently, that I shall have to obey the regulations of this new young Director, like an assistant; but it only gradually

dawns upon me that I have absolutely nothing to do save to pack up and go; that the Regierungsrath obviously wishes to get rid of me; and that the most that I can do is to prosecute him later for my own satisfaction."

At this point I awoke, and the whole absurdity became clear to me at once.

The analogy between the kind of dissociated thought in the dream and that of general paralysis of the insane is really striking.

4. *Old Recollections.*—One dreams not infrequently of quite old perceptions. I still dream of my grandparents, who have been dead for more than thirty years. Their voices and their appearance are a little dim, but are still quite natural.

5. *The Influence of Dreams on the Waking Condition.*—I dreamed "I was engaged to Miss X. During the marriage ceremony I suddenly remember my children, and then the fact that I am already married makes itself felt, and creates a tormenting consternation. I feel that I am guilty of bigamy. Great fear and excitement. I awake." During the whole of the following day I felt depressed, which mood could only be due to this idiotic dream.

6. Mrs. X. dreams that her brother is dead. She is quite inconsolable. She feels very depressed in her mind during the whole day, and has an indistinct feeling as if something sad had taken place. Every time she thinks of this she again remembers the cause, the dream.[1]

7. *Falsification of Memory.*—Mrs. Z. sets her alarm each night for a certain hour, so that she may give her baby the chamber. She hears the alarm go off in her sleep, and dreams "you have sat the child on the chamber," so turns round and continues to sleep. Next morning the baby is wet. Mrs. Z. then remembers her dream reasoning, and recalls that it was false.

[1] Miss St. dreamed that her father was dead, and had been buried. She was sad during the whole morning, but only in the afternoon did she remember her dream. She became uneasy. She felt homesick, although she had never before felt like it. Added to this, her head began to ache. The patient, after receiving a suggestion that she should be amnesic and in good spirits, declared that she was happy, and that she had been sad and anxious during the afternoon on account of a dream, which she had, however, completely forgotten. The second suggestion produced complete amnesia (O. Vogt).

8. *Actions as the Result of Dreams.*—A mother dreams that her little child, who has just learned to walk, might fall. She stretches out with both hands to save it, and, waking up, finds that she is holding the bedclothes clutched tightly in her hands. Another time she seizes hold of her husband's hand during a similar dream.

9. *Allegorizing of Impressions.*—An open window, moved by the wind, rattles backwards and forwards. A person sleeping near it dreams that a laundress is vigorously beating the washing. Another dreamer, who is suffering from the toothache (an abscess), dreams incessantly that his teeth are falling out of their sockets, and that he is spitting them out.

Under any circumstances, the dissociation in dream life is the most prominent feature. Just as sensations of smell or visceral sensations follow one another in point of time in the mirror of our consciousness during waking, almost without being associated, and replace one another, so we see that nearly all dream impressions, and also visual impressions, relieve each other either directly or only partly, and without meaning. In her dreams my sister can change into a man, or into a table and such like things.

A transition between sleep and the condition of waking is formed by the so-called light sleep (Liébeault), in which the brain activity is much more like that of the waking condition, and during which one is only partly amnesic or not at all amnesic. The time appears to our consciousness to be shortened. Many light sleepers declare that they have not slept, but only dozed. They are more or less aware when they awake of all that has taken place around them. Still, they are able to dream, and may even dream vividly. Moreover, among these persons there are many individual variations. Some of them can awaken out of the light sleep at will, and move about; others do not gain the mastery over their movements. As a matter of fact, the light spontaneous sleep corresponds more or less to the lighter degree of hypnosis (hypotaxis), in which the hypnotized person has the subjective feeling that he has not slept, but has nevertheless been influenced (Liébeault).

As has already been said, it is well known that many persons

can measure time during normal sleep, and awaken at any given time which they have determined on on the preceding evening. This determination is productive of a light, uneasy sleep in some persons; other persons, however, sleep as usual, and still awaken at the given time. We can produce the same phenomenon by means of suggestion, not only in hypnosis, but also in normal sleep, when this capability is wanting. I can give the suggestion to an easily suggestible person that he shall awaken at such and such an hour in the night, and this will take place punctually.

I have also been able to fix by means of suggestion those associations which would awaken a normal sleeper, and, conversely, those which a normal sleeper does not hear. Thus, the suggested person, for example, sleeps quietly through a loud noise, while the faintest noise of another character awakens him. (See the spontaneous analogies without suggestion mentioned above.) This has proved very useful to me with the attendants in the asylum who had the care of noisy and even dangerous patients. For example, I hypnotized one attendant, and told him that he would not hear the loudest noise, and would not be awakened by it. I clapped my hands close to his ears, whistled loudly into them, but he did not awaken. Then I told him that he would awaken at once when I made a soft noise with my nails three times. This was done so softly that not one of those present heard it. He awoke, remembered the scratching noise, but had not heard anything of the clapping and whistling. Then I told him that he would hear absolutely nothing of the greatest noise and knocking of the maniacal patients, but would sleep on quietly; but, on the other hand, he would awaken at once if any patient did anything unusual or dangerous.

I have carried this out for ten years consistently with all the attendants of the noisy wards who agreed to it (this was a large majority of them), and since this time nervous exhaustion, sleeplessness, and the like, have, so to say, disappeared from the attendants, while the supervision of the patients has gained in safety.

In the same way, I have allowed a nurse to sleep in bed next

to a suicidal melancholic. I had previously tested the safety of the nurse's suggestive reaction during sleep, and then gave her the suggestion to sleep well, not to hear the groaning and noises, but to awaken at once if the patient made the least attempt to get out of bed or to do anything to himself. As soon as the patient had been brought back to bed, the nurse was to go to sleep again at once. This occurred so regularly that several patients who had been looked after in this way regarded their nurses as being bewitched. Nurses who had carried out this duty for periods up to six months, and who had worked hard during the daytime, remained lively and bright, looked well, and did not show a trace of tiredness. It is true that only very suggestible people are suited for this; still, I always had several nurses and male attendants who were adapted for such duties.

My successor, Professor Bleuler, and Professor Mahaim, of Cery-Lausanne, have been able to confirm this experience.

The following case illustrates the safety of this method of supervision very strikingly:

Mrs. M. S. was admitted into the Burghoelzli Asylum on August 25, 1892, suffering from extreme, completely demented mania. She had brought fourteen children into the world, and eleven of these were still living. The births were always very easy and rapid, none having lasted more than a quarter of an hour. The mania became chronic, and Mrs. S. became so brutal and violent that she could only sleep at night time in the padded room. She remained completely demented, and did not recognize anyone. It was only in January, 1893, that one noticed that she was pregnant. I was very anxious about this pregnancy. On the one hand, her violence excluded the possibility of a nurse helping her during the night time, and, on the other hand, I feared that an unnoticed partus during the night would be accompanied by the death of the child. The date of the partus was naturally quite uncertain. On March 13th I resolved on the following plan: I placed the patient in bed alone in a room with protected windows. The best somnambulist among the nurses was put in a bed in the corridor near the door of the patient's room. She was given the suggestion that she

would sleep exceedingly well each night, and not hear the usual noises which Mrs. S. made. However, as soon as the birth should begin at night time, she would notice it through the door, and awaken at once. I do not know how she was to notice this; perhaps the patient would become somewhat quieter (but this takes place from time to time), or she might whine a little—in short, I do not know, but she (the nurse) was to notice it. She was to get up at once, look in at the patient, go for the sister, and then have the doctor sent for. I only gave this suggestion once or twice definitely, and from that time onward the nurse slept in the corridor outside Mrs. S.'s door. The latter remained extremely excited, dirty, and demented, destroyed and tore everything up.

My assistant, Dr. Mercier, shook his head at my precaution; the nurse slept very well, and did not awaken during any night. My assistant examined the patient at eight o'clock in the evening of May 6, found no signs of the beginning of the partus, and said to the nurse that she might go for some time longer. Everyone was in bed at 9 P.M. at the latest, and all slept with the exception of the noisy Mrs. S. Suddenly, at eleven o'clock in the night, the nurse awakened (she had never awakened during the night in all the past days and weeks, and had never disturbed the sister). She went into the room, and, it is true, did not notice much the matter with the patient, but ran off to fetch the sister. She said, "I am sure that it is coming on," and then both returned to the patient. The sister did not quite believe that the labor was beginning, as she did not see anything unusual, and as the patient was still going about. The "waters," which had broken, were mistaken for urine (the patient being dirty); still, the doctor was sent for at once, and arrived just in time to receive the head of the fœtus. When I arrived, I was able to remove the after-birth, and was then greeted by the patient with curses, blows, and kicks. It required four or five persons to keep her in bed. The nurse acknowledged that she did not know why she awoke. Mrs. S. may have been a little quieter than usual, but complained, as she often did. Both she and the sister agreed that they could scarcely distinguish her cursing, crying, screaming, and com-

plaining from her usual noises. Still, some unusual sound perception or other must have awakened the somnambulist and reminded her of the suggestion. The child was healthy. Mrs. S. remained maniacal and demented until the summer, 1894, when she gradually became quieter and clearer, and later she recovered. Two years had disappeared from her memory. She had not the faintest idea of the conception, pregnancy, labor, and child, and at first she believed that we were telling her a fairy tale when we spoke of what had taken place, especially as the child had died of pertussis in the meantime.

This case, which is of interest from many points of view, proves that good somnambulists react with certainty to suggestion, even during sleep and after the lapse of a long time. And one must allow that I would not have risked such an experiment without having been sure of my grounds. There are enough witnesses to confirm the circumstances. Dr. Walther Inhelder collected my experiences in this direction in the Burghoelzli Asylum for his article on the importance of hypnosis for the night supervision by attendants.[1]

I thought that these cases would demonstrate the hypoconceived associative connections and mutual influencing of the dream activity and the waking activity of the brain better than anything else.

I refer the reader to O. Vogt's views, given later (section 16), and especially to his article, "Spontaneous Somnambulism in Hypnosis."[2] He shows, in opposition to Löwenfeld, by very excellent examples, that spontaneous somnambulism produced in sleep can be transformed into quiet hypnosis, and this in its turn can be terminated in normal awakening or normal sleep. He proves quite conclusively that the mechanism of normal sleep and that of hypnosis are the same. I have always shared these views with Liébeault, but it was O. Vogt who proved them most conclusively. Normal sleep, like hypnosis, is a condition of heightened suggestibility—*i.e.*, a dissociated condition—only, as a rule, the condition of exhaustion of the brain is added, and the connection with the hypnotist is wanting.

[1] *Zeitschrift für Hypnotismus*, 1893, p. 201. [2] *Ibid.*, 1897.

Thus we come to the discussion of amnesia, regarded as one of the most important, and in forensic medicine perhaps the most important, practical phenomenon of sleep and of hypnosis. As a rule, the normally deep sleeper is also a deep sleeper in the hypnotic condition. In this the deep sleeper is mostly more strongly subjected to the influence of the hypnotist. One can produce memory or amnesia in him for any period of his life, or at least for his sleep, at will. Bernheim produced deep sleep in more than half of the patients in his hospital practice. In order to show the very wide distribution of deep hypnotizability among normal people, I may mention that at one time I attempted to produce hypnosis in twenty-three out of twenty-six nurses in the Burghoelzli Asylum, and succeeded in every case. Among these, only one was put merely into a condition of somnambulence, three showed light sleep not associated with amnesia, and the remaining nineteen showed deep sleep with amnesia, post-hypnotic phenomena, and the suggestive condition when awake. Catalepsy and anæsthesia were attained in two cases, immediately on the first attempt in the waking condition, by means of affirmation. Neither of these nurses had ever been hypnotized before. Dr. O. Vogt has, however, surpassed all that has hitherto been achieved in this respect (see p. 62).

3. Degrees of Hypnosis.—Charcot's well-known phases lethargy, catalepsy, and somnambulism, depend on prepared hypnosis of hysterical persons. Bernheim attempted to introduce a classification in several degrees. However, there is no possibility of a precise limitation. I consider that it suffices to accept three degrees of suggestibility, which, however, can have transitions: (1) Somnolence. The lightly influenced person can resist the suggestion by the exercise of his energy, and can open his eyes. (2) Light sleep, otherwise called hypotaxis or "charme." Here the influenced person can no longer open his eyes, and is obliged to obey a part of the suggestions or all of them, with the exception of amnesia. He does not become amnesic. (3) Deep sleep or somnambulism. This is characterized by amnesia after awakening. The term "somnambulism" is, in my opinion, not a happily chosen one, since

it gives rise to confusion with spontaneous somnambulism. The latter is a mild but nevertheless true pathological condition, which appears to be frequently connected with hysteria, and is not simple hypnotism. Posthypnotic phenomena may occur, not infrequently in my experience, even after light sleep. Suggestibility may, under certain circumstances, be very slight, or even almost absent, in very deep sleep (very rare cases). However, one can produce sleep with open eyes, the result of suggestion in waking condition, as well as amnesia, and, conversely, memory by means of suggestion, so that the three degrees are very ill-defined. The sleep, the amnesia, and the capability of resistance are herein only used as tests of the suggestibility. It depends chiefly on what one has suggested at first.

One can further transform somnolence into hypotaxis by means of suggestion with practice and training, and hypotaxis into somnambulism by means of suggestion of amnesia, although this does not always succeed.

4. Training.—One has heard a great deal of the training of the hypnotized. That one increases the suggestibility of a person by repeated hypnotizing is an assured fact. One can, above all, cause him to do everything which one has made him do in the first hypnosis, without verbal order, again, in an apparently instinctive way. The somnambulist concentrates (as Bernheim very truly puts it) in his narrowed brain activity his whole attention to guess the wishes of the hypnotist. However, one has largely overrated the part played by training, especially in Germany, and has overlooked the high degree of the individual suggestibility of the majority of normal people. Where does the training come in, for example, in this case? I hypnotized a perfectly normal, capable nurse for the first time. I looked at her for a few seconds, suggesting sleep, then required her to look at two fingers of my left hand (Bernheim's method); after thirty seconds her lids closed. I suggested amnesia to her, then catalepsy of the arms, caused the arms to be twisted and suggested anæsthesia. All this succeeded at once. I pricked her deeply with a needle. She did not feel anything. I gave her water from the fountain, saying that

it was a bitter mixture, and it tasted bitter to her. I suggested to her that her appetite was good (with satisfactory result), and told her that when she awoke she would of her own accord place the paper-basket, standing under the table, on a certain person's lap, and, lastly, that she would come to me at six o'clock in the evening, without receiving any further message. I awakened her by making her count up to four. She did not know anything of what had taken place, and looked constantly at the paper-basket, which she placed on the lap of the person, blushing and feeling awkward the while. She was very angry about this behavior, which she felt herself driven to carry out, although she did not know why. At six o'clock she was alone in the ward, and could not leave on this account; but, having a strong impulse that she should come to me, got very excited and anxious, as she dared not follow this impulse. Who could speak of training in this case? The young peasant girl had only recently come here as a nurse, and was hypnotized for the first time, and she, nevertheless, behaved just like a repeatedly hypnotized somnambulist, only much more directly, and therefore more convincingly.

The fact that the kind of hypnotic reaction of a person is chiefly guided by the kind of suggestion to which he was first subjected to appears to me to be of paramount importance. If one chooses sleep principally, the person will become a sleeper. If one chooses to produce posthypnotic phenomena, he will show such phenomena chiefly, and will react during the waking condition easily to hallucinations, etc. In the same way, anæsthesia, amnesia, etc., can take the most prominent place, according to the efforts of the hypnotist. If a certain person is accustomed to react in a definite way, it is much more difficult to suggest other symptoms later on with a good result.

Naturally, when anyone is repeatedly hypnotized for a long time, and especially when the same experiment is always carried out again and again with him, the phenomena of accustoming appear, as they would with any other nerve activity. The most idiotic suggestions appeal to him to be plausible. It all becomes more mechanical and automatic, as accustomed achieve-

ments, impressions, etc., do with us. That is a general law of psychology—*i.e.,* of the work of the brain.

After ripe experience, I maintain that the direct influence of the hypnotist eventually diminishes after long continued, increasing training. The hypnotized gets to know his hypnotist and his weaknesses well, the fascination of the beginning is gradually lost, and autosuggestion and the contrary suggestion increase. While the suggested portion of the brain activity becomes more automatic and more mechanically adapted, the remaining parts collect themselves together to form an increasingly conscious reaction, to form a not suggested second "ego." In this way the belief in general in suggestion and its influences will rather tend to become less. For this reason one retains more power if one hypnotizes less frequently, and if the suggestion is not given mechanically, and not always in the same way. The experiments on persons hypnotized for the first time are therefore the clearest and prove to be the best.

5. The Phenomena of Hypnosis.—One can say that one can produce, influence, and prevent (inhibit, modify, paralyze, or stimulate) all the known subjective phenomena of the human mind by means of suggestion in hypnosis, and a large proportion of the known objective functions of the nervous system. The pure ganglionic functions and the spinal reflexes, as well as the corresponding reflexes of the base of the brain, are either not influenceable at all by suggestion, or are only very rarely influenced, and then but slightly. But more than this, suggestion is able to control certain so-called somatic functions, such as menstruation, pollutions, sweat secretion, digestion, and even the formation of epidermic vesicles, in such a way that the dependence of these functions on the dynamism of the cerebrum is clearly proved. Still, I do not mean to say that these results are obtainable with every hypnotized person. However, with patience, one can obtain the greater part of them during deep sleep.

These phenomena are obtained by simple affirmation or stating that they are present. This is best done in connection with the touching of that part of the body in which the sensations are subjectively felt, and at the same time explaining the proc-

esses of their production with a loud, convincing voice. One begins by asking the person to be hypnotized to sit in a comfortable, easy chair, then one looks at him, and assures him that his eyelids will become as heavy as lead, that they will close, etc.—in short, by suggesting to him the phenomena of going to sleep. Every specialist, however, has his own tricks and methods, by means of which he finds it easiest to produce hypnosis. It really does not matter how one sets about it. The following examples illustrate this:

Motor Phenomena.—I say that the arm is stiff, and cannot be moved; at the same time I raise the arm. The arm remains in a condition of cataleptic rigidity (suggestive catalepsy). The same may be applied to every possible muscle position of any part of the body. I say that the arm is paralyzed, and will fall like a leaden weight. This takes place at once, and the hypnotized person cannot move it any more. On the other hand, I may declare that both hands are to be turned round one another automatically, and that all efforts on the part of the hypnotized person to keep them still will only have the effect of making them turn the faster. The hands twist round one another increasingly fast, and all attempts to check them fail. I tell the hypnotized that he can speak, and can answer me. In the same way he can walk, act, command, have convulsions, stammer, and so on. I tell him that he is drunk, and staggers; he walks like a drunken man at once.

Sensory Phenomena.—I say, "There is a flea on your right cheek; it itches abominably." The hypnotized person makes a grimace at once, and scratches his right cheek. "You feel that your legs and arms are comfortably warm." To this he answers that it is so. "Don't you see a savage dog in front of you, barking at you?" The hypnotized at once starts back, and then chases the supposititious dog, which he sees and hears. I pretend to hand him something, and tell him that it is a sweet-smelling bouquet of violets. He sniffs in the imagined perfume with delight. I can make the hypnotized drink bitter quinine, salt water, raspberry juice, and chocolate within a few seconds in successive sips from one and the same glass of water; but one does not even require the glass of water. The statement

that he has a glass containing the named drink in his hand suffices. Pain can easily be suggested, and it is still easier to drive away a pain which was present before by suggestion. For example, one usually has no difficulty in curing a headache in a few seconds or at most in a few minutes.

Besides this, anæsthesia, anosmia, blindness, color-blindness, double vision, deafness, loss of the sense of taste, and ageusia, can be readily suggested. I have had teeth drawn from my patient's mouth during hypnosis, abscesses opened, corns removed, and have made deep incisions without the least pain having been produced. It is sufficient to assure him that the region is dead and insensible. Surgical operations and parturition are possible with hypnosis, although this is rarer, and in this case it can replace chloroform anæsthesia with advantage, and without the dangers of the latter. Drs. von Schrenck and Delbœuf have described labors which have been conducted under hypnosis without any pain. If one succeeds in producing anæsthesia properly, painless surgical operations, provided that they do not last too long, are always possible with hypnosis. But the fear of the operation generally disturbs the suggestibility, especially when the patient witnesses elaborate preparations. The greatest practical difficulty is met with here.[1]

Bernheim wisely calls the extraordinary deceptive perception of the disappearance of an object present within the area of the senses Negative Hallucination. I may tell a hypnotized who sleeps with open eyes that I have disappeared, and that he no longer sees me, hears me, or feels me. I can let him hear and feel me without seeing me by suggesting this, and so on.

Negative hallucination is a very instructive process. It helps to explain the nature of hypnotism, and also the nature of hallucinations. We owe our thanks to Bernheim for the best studies on this subject. At first it is somewhat striking how the hypnotized acquires the appearance of a swindler as he goes round and avoids that which is supposed to have vanished, etc. One can observe here the phenomenon of double conscious-

[1] O. Vogt gave a very suggestible patient the suggestion during waking that his severe toothache would cease at once, that he would go to the dentist in the afternoon and have the offending molar drawn; he would not feel anything of this. The waking suggestion was completely realized.

ness if one studies the position very closely. The superconsciousness does not see; the hypoconsciousness sees and avoids.[1] In certain cases there is an association between both chains of consciousness, as mentioned in the dream recited on p. 79. This is also shown in a case in which Delbœuf gave the suggestion to a young girl that she was a good-looking young man, and the girl then acknowledged that she had seen the young man, but that the old gray head had always loomed through. Delbœuf had fallen into the error of generalizing this observation, an error against which, I would point out here, one cannot warn sufficiently in hypnotic phenomena. There are converse cases, either evidenced by heightened individual suggestibility, and especially in hysterical persons, or as the result of special training (both factors usually act together), in which the correcting hypoconsciousness recedes completely into the background, and in which the hypnotized becomes completely deceived. This can only be achieved if one succeeds in extending the negative hallucination completely to all the senses: for example, if one arranges that an object can be neither seen, nor felt, nor heard (when it knocks against something, or falls), nor smelled. It is always extremely difficult altogether to exclude a certain degree of hypoconscious noticing. On the other hand, it is very easy to combine amnesia with the phenomena just mentioned, and the majority remain firmly convinced afterwards when awake that they have felt, seen, and heard absolutely nothing.

The study of negative hallucination rapidly leads to the conclusion that that which is not suggested is not only supple-

[1] "One can observe the activity of the hypoconsciousness even in the insane very frequently if one has experience in hypnotic experiments. An hysteric believes that I am her brother, and refuses to be convinced to the contrary. But, nevertheless, the fixation of my person produced a chain of ideas which I could only have caused in my capacity as doctor. Another hysteric always saw a certain person whom she hated in her excitement. She went for the supposed person, but stopped herself short before reaching her, and never struck at the hallucinated person, although she always attacked everyone else." (O. Vogt.)

Every asylum doctor recognizes this phenomenon. In acute mental affections the discernment alters with the illness. At first there is a sort of duel between the healthy and diseased brain activity. As time goes on these two activities gradually become more reconciled to one another, to the detriment of logic. The diseased chain works more superconsciously and the healthy chain more hypoconsciously. Thus a patient imagining himself to be God or a king is quite willing to undertake menial duties, and another who believes that he is starving or dying eats with a regal appetite.

mented by every hypnotized person according to its kind, as it is with all suggestions (the one hallucinates the chair behind the person who is supposed to have vanished, on which he is really sitting; the second hallucinates a mist, and so on); but every negative hallucination of sight is complemented by a positive one, and, conversely, almost every positive hallucination is complemented by a negative one. As a matter of fact, one cannot see a gap in the field of vision without placing something into it, even if it be only a black background; and, conversely, one cannot hallucinate anything positively without covering a portion of the visual field, or at least, as in the case of transparent hallucinations, rendering this part misty. The same takes place also with many deceptions of hearing and feeling. When a voice is hallucinated, actual sounds are often not heard. If a blackbird's song is changed into a satire (illusion), the bird's song is no longer recognized as such. If one lies in bed and hallucinates that one is lying on a pin-cushion, one no longer feels the soft mattress, and so on.

These facts led me to study the negative hallucinations in the insane, and I was astonished to find how frequently this phenomenon really occurs. I first reported on this subject in 1889 in the Verein schweizerischer Irrenaerzte (the Association of Swiss Asylum Doctors), and later in the Congress on Hypnotism in Paris,[1] and gave examples illustrative of this. One has scarcely paid any attention to this hitherto, since the patients mostly only speak of the positive parts of the phenomena, unless one asks them especially.

It is interesting to analyze the process of negative hallucination in the light of Semon's Mneme theory. The engram is that which I formerly termed dynamic trace (Ribot).[2] The engrams are not produced in reality by single, completely isolated stimuli, but by associated stimuli complexes, and they form in this way associated engram complexes. As is known, the association takes place either in point of place or in point of time.

Engrams can be associated simultaneously in point of place,

[1] "Compte rendu," by Bérillon, p. 122. (Paris: O. Doin, 1890.)
[2] A. Forel, "Memory and its Abnormalities." (Zürich: Orell, Füssli and Co., 1885.)

according to Semon. Simultaneous engram complexes exist—as, for example, especially those which we receive by means of our sense of sight. They can also be associated in sequence, as is particularly the case with the sense of hearing and in ontogenia. The chief difference between simultaneous and successive engram complexes is that the simultaneous complexes are ambiguously linked as equivalents, while the engrams in sequence are linked polarly as unequivalents. In the sequence *a-b, a* acts much more strongly on *b* than *b* does on *a,* thus the backward action is weaker. If I ask "woh," instead of "how," for example, the person asked does not realize at once that "woh" is the reverse of "how." It often occurs in the sequence of engrams that two or more similar engrams are more or less equivalently associated with one that has preceded. In such a case Semon speaks of dichotomy, trichotomy, etc.; but as two succeeding engrams cannot be ecphorized simultaneously from the one which has preceded, that which Semon calls "alternative ecphoria" takes place. This is, that either the one or the other of the succeeding associated engrams are ecphorized. In such an alternation it will depend on the frequent repetition of the one branch that this one is more frequently ecphorized than the others. Thus, for example, in the second verse of the text of a song, if this has two versions, as is the case in Goethe's well-known song:

Über allen Gipfeln ist Ruh, in allen { Wäldern hörest du keinen Hauch. / Wipfeln spürest du kaum einen Hauch.[1]

These forms of alternative ecphorias play a most important part in the laws of ontogenia and of inheritance. The more frequently repeated, stronger engram branch is usually alone ecphorized, while the other or others generally remain completely latent. The latter may, however, be ecphorized under favorable conditions—*e.g.,* in the following generation.

[1] High on the tree-tops all is peace { in every woodland you do not feel a breath. / on every summit you scarcely feel a breath.

On regarding the place association, one meets with something of the same sort, in so far as the whole of the same space cannot possibly be filled at the same time by two different sensations or complexes of sensations in our consciousness. For example, I cannot see the same surface of one square centimeter red and blue at the same time. Either the sensations of blue and red fill two surfaces placed side by side, or the same surface can be first seen red and then blue, or the reverse. This law, which is obviously caused by the conditions of the outer world—that is, by the projection of these conditions in the brain—repeats itself in the so-called impressions of memory (in the ecphorized engrams), no matter whether these be hallucinated or whether they be only imagined internally.

An intelligent person suffering from recurrent insanity hallucinated that she was in a subterraneous passage and witnessed an execution, while she was lying in a bed in the dormitory. She told me later quite clearly, on being questioned by me, that while she had this hallucination she no longer saw the whole dormitory, including the beds, and did not even hear the noise of the patients in the neighboring corridor.

If we now regard negative hallucination in the light of the doctrine of the Mneme, we are bound to admit that dichotomies occur even in simultaneous engrams. These can be alternately ecphorized, especially when the same space is occupied by different impressions of the senses. For example, I can imagine a pine tree or a fir tree in the same imagined place, but not both at the same time and in the same place. I can therefore ecphorize the picture of the pine or the picture of the fir. The power of suggestion acts on the negative hallucination, so that the ecphoria of a formerly suggested sight engram, for example, acts more strongly than the stimulation of the light which reaches the brain of the person, hallucinating through his eye. Thereby even the original direct stimulation will be outweighed by the alternating ecphoria of an old engram in the brain. The same applies to the sense of touch.

But, just as with the alternating ecphorias in sequence, the branches of the dichotomies which are not ecphorized remain latent in the brain. Such a latency plays a large part, un-

doubtedly, in all hypnotic and also in all psychological phenomena.

I am of opinion that it would be worth while to investigate the Mneme theory of Semon further in this direction.

One need scarcely add that hallucination is a purely cerebral process, which is just as little influenced by the laws of optics, etc., as the area of distribution of a suggested anæsthesia is influenced by the area of distribution of the peripheral sensory nerves. It is well known that a man whose finger has been amputated often hallucinates his removed finger, and that a person whose optic nerves are destroyed can have visual hallucinations for many years after the destruction. I have observed a striking case of this in the Burghoelzli Asylum in Zürich. A man had his eye destroyed by a shot thirty years previously (March, 1865) by the North American Indians. The other eye was lost soon after from a sympathetic inflammation. The man had the most marked visual hallucinations, although he had been retinally blind for twenty-eight years (since 1867). He had his last hallucination of sight at the end of the year 1893. In all other respects he was quite normal, and gave very clear descriptions of his visions. The autopsy undertaken later revealed complete atrophy of both optic nerves.

Reflexes.—I say, "You are yawning." The hypnotized yawns. "You feel an irritation in your nose, and must sneeze three times in succession." The hypnotized immediately sneezes three times in the most natural way. Vomiting, hiccough, etc., can be produced in the same manner. One is dealing with the so-called psychical reflexes here, which are produced by perceptions.

The most extraordinary phenomena of suggestion are found in the vaso-motor, secretory, and exudative actions. One can produce menstruation in women by simple prophesying during hypnosis, or can cause it to stop. One can regulate its intensity and duration. I have even been able to obtain with certainty punctuality to the minute, both as regard the commencement and the termination in some subjects. Blushing and becoming pale can be achieved. In the same way, reddening of certain parts of the body or areas of the skin, bleeding of the

nose, and even the bleeding habit, can be produced. However, these are very rare results. The pulse can be quickened or slowed occasionally.

I have been able to regulate the menstruation in several cases for years in such a way that the period always appeared at the same date of the month—*e.g.*, the first—no matter whether the month had thirty-one, thirty, or twenty-eight days. These cases will be given later. The matter is of importance for the theory of the relation of menstruation to ovulation. One gynæcologist told me that he regarded such menses obtained by suggestion as uterine hæmorrhages, and not as menstruation. Could such an opinion hold good if the menstruation remains regulated for years, and the woman has normal pregnancies and labors in the meantime? The usual theories on the relation between ovulation and menstruation are still very insecure. Animals ovulate without menstruating, and the same takes place in some women. In my opinion there are two possibilities:

(1) Either menstruation has nothing whatever to do with ovulation, and only serves to form the decidua more or less periodically, and in this way to freshen up the uterine mucosa, so that the ovum can attach itself well. For this purpose, however, a bleeding would not be absolutely necessary; a free fluxion or hyperæmia would appear to suffice. There is much which speaks in favor of this view.

(2) Or that both processes are so intimately connected with one another that the ripening of the ovum does not necessitate the immediate casting out of it, but that the ripened ovum can wait in the Graafian follicle, and that the same periodical nerve process of the fluxion or menstruation produces at the same time the casting out of the ripe ova from the Graafian follicles and the fluxion or uterine bleeding, by the osmotic process in the follicles being favored by the hyperæmia.

The way in which menstruation depends on suggestion admits of both these explanations in my opinion, but does not tally with the view that menstruation is produced purely as secondary to ovulation.

I refer those who still are skeptical about the influence of

suggestion to Delius's work.[1] Delius records sixty cases of menstrual disturbances which were nearly all cured by suggestion, or very materially improved.

It is easy to produce the secretion of sweat by suggestion, or to inhibit it. The influence on the movements of the bowels is of greater importance. One can produce diarrhœa or constipation very often, or, what is of greater value, stop it. I have completely cured obstinate cases of constipation which have lasted for years by a few suggestions (*vide infra*). The same applies to diarrhœa, as long as it does not depend on inflammatory conditions or on fermentation. The stimulation of the appetite, of the digestion, and the removal of idiosyncrasies by suggestion behave similarly. The secretion of the gastric glands is regulated or influenced without doubt by means of the suggested perception. In the influencing of menstruation a vaso-motor paralysis simply or a vaso-motor spasm is produced by the perception. Thus it can be demonstrated *ad oculos* how completely independent the menstruation can be from ovulation. The same process takes place by the induction or inhibition of erections by suggestion, and in this way pollutions can be influenced. Urticarial wheals can be produced in certain very suggestible persons by simply touching the skin. One can produce their name in graphic wheals on their skin with a pencil (dermographism). I regard this phenomenon of pathological reflex irritability as not only related to urticaria, but also to hysterical suggestibility. Von Schrenck and others have controverted in the other direction, and have explained the matter simply as a pathological, urticaria-like phenomenon. But a suggestibility which is pathologically increased in one special direction is nevertheless pathological, as are all the pathological increasings or diminishings of the normal life phenomena. One should not set up antitheses where none are present. Von Shrenck doubts the authenticity of the suggestive vesication. Against this, Wetterstrand[2] produced two gangrenous vesicles by means of suggestion in somnambulism. One of these, situ-

[1] Delius, "The Influence of Cerebral Processes on Menstruation, and the Treatment of Disturbances of Menstruation by Hypnotic Suggestion." (*Wiener Klinische Rundschau*, Nos. 11 and 12, 1905.)

[2] Wetterstrand, "Hypnotism," p. 31. (Vienna and Leipzig, 1891.)

ated in the middle of the hand, was produced on October 7, 1890, and the other, on the thumb side of the hand, was produced on October 14, and he photographed them on October 15. Both vesicles appeared eight hours after the suggestion was given. The patient, a nineteen-years-old epileptic, was controlled and carefully watched, and no attacks took place from July 15, 1889, until the day Wetterstrand sent in his article on December 14, 1890. The very excellent original photograph which Wetterstrand sent me is in my possession. I have seen one other case like this in the practice of Dr. Marcel Briand in Paris. The patient was an hysterical female, and the blisters were produced beneath a newspaper by suggestion. While these cases are very rare, it is very easy to produce bleeding from the mucous membrane by suggestion.

The following cases seem to me to be interesting, and to be very nearly related to, or identical with, suggestion: A nervous, sensitive parson was slandered by a woman, who perjured herself in a court of law. Shortly after this the parson's hair in the neighborhood of both temples turned white. Later, however, his hair regained its black or brown color—*i.e.*, the white hairs gradually fell out, and were replaced by brown hairs. I myself have treated a woman, aged forty-eight years, whose mind was severely affected. Her hair had rapidly turned white one and a half years previously, in consequence of deeply affecting experiences and great exhaustion. While she was in the asylum under my care she improved bodily, and she got a copious growth of dark brown hair. It looked as if every bunch of hair was brown at the roots and white at the tips; but, on looking more closely, one found that the brown hairs were only shorter, and thus covered the roots of the long white hairs. The latter were much longer and also much sparser, as they had fallen out considerably six months after they had turned white. I published this case in the *Zeitschrift für Hypnotismus* in 1897.

Feelings, Impulses, and Disturbances of Mood.—It is easy to suggest or inhibit appetite, thirst, and sexual impulse by affirmation. One can increase the action of the suggestion by palpating the stomach, or by causing suggested foodstuffs to be

eaten, etc. Fear, happiness, hatred, anger, jealousy, love for some one or something, etc., are easily produced by suggestion—at all events, for the time being; to these one can add laughing and crying. Onanism and bed-wetting have often been cured in this way.

Thinking processes, memory, consciousness, and will, can also be influenced. I say: "You will forget all that I have told you while you are asleep, and only remember that you have had a kitten on your lap and have stroked it." After the hypnotized person has awakened, he forgets everything save the kitten episode. Frank said to a young lady who spoke French well: "You cannot speak French any longer until I again suggest it to you." And this poor lady was incapable of using the French language until this suggestion was taken away from her. She might have been rendered dumb, and all her psychical qualities could have been taken from her instantly and at will, by the means of simple suggestion. Since this I have frequently succeeded with similar experiments. I caused the long since deceased relatives of a somnambulist to appear to her posthypnotically, and she conversed with them for a long time. I allowed others to walk on the sea or on a river, like St. Peter. I transformed others into hungry wolves or lions, and they barked at me and wanted to attack and bite me. On one occasion blood was even drawn by a bite. I wish to call Professor Delbœuf's attention to this. I transformed a man into a girl, and he remembered menstruating; and, conversely, I changed a girl into an officer. When the suggestion of childhood is made to good somnambulists, the speech and writing are correspondingly altered. Such occurrences leave a deep impression of mood behind, unless one suggests amnesia for the whole episode afterwards.

I can suggest to a hypnotized any thought I please, or any idea. I can force any conviction on him—*e.g.*, that he does not care any more for wine, that he should belong to this or that society, or that he likes things which he used not to care for. I have achieved deep pangs of conscience, remorse, public (spontaneous) confession to the president of the temperance society, and renewal of the oath of abstinence, without speaking a word

to her while she was awake, in an alcoholic woman who had broken her vow to observe abstinence, by suggestion. The result was most striking, and took effect immediately on the hypnosis. No signs of this had been noticeable before.

The influence on resolutions of will is particularly important. Resolutions of will of the hypnotized person can not infrequently be influenced at pleasure. It has often been said that this person becomes devoid of will, or weak-willed. That is a mistake, which is partly due to the false supposition of an essentially free human will. One can rather strengthen a weak will by means of hypnosis.

Still, it is much easier to influence a definite localized phenomenon—*e.g.,* the craving for alcohol, a definite passion, etc. —than to influence general characteristics or changes of mood. The latter are in themselves extremely difficult to govern, and I doubt whether marked inherited constitutional characteristics or predispositions can be influenced materially. Under no circumstances could this influence be lasting, while acquired habits can, undoubtedly, be removed. One can influence momentarily the direction of the will, can provoke resolutions and quash others, but one cannot permanently alter the conformation of the will, taken as a general quality of the character of an individual, by suggestion.

6. Resistance of the Hypnotized Person; Autosuggestion.—I have induced all the phenomena detailed and many others, as Liébeault, Bernheim, and others have done, in my hypnotized.

However, as Bernheim has rightly emphasized, one need not allow one's self to be blinded by the impression of these facts, which appear to be almost terrifying and phantastic. One should, further, not overlook the other side of the phenomenon—that is, the resistance of the brain activity of the hypnotized person against the interference of a strange person. Blind automatic obedience of the hypnotized is never complete; suggestion always has its limits, which are sometimes wider and sometimes narrower, and may vary considerably in the same individual.

The hypnotized person protects himself in two ways: con-

sciously by means of his reasoning logic, and unconsciously by autosuggestion. I lift the arm of a hypnotized and say that it is stiff. He struggles to bring it down, straining vigorously, and ultimately succeeds. Still, the feeling of the exertion which he had been put to brings him all the more surely into my hands, since it shows him my superior power. A little trick suffices to force him. I say for the second time, "I lift your arm into the air with force, with magnetism." This is enough to prevent it from falling again. I hold my hand near his, without touching it, and compel him to lift it above his head by means of the power of his suggestibility.

However, the resistance was present. If this is not rapidly conquered, the hypnotized believes in his power of resistance, and can oppose a number of suggestions. Some people can lose their suggestibility entirely by energetic considerations of reason and exertion of will. This takes place more often in response to the talking over of other people, and still more often if the hypnotized loses his respect, trust, or affection for the hypnotist, from some cause or other. Disturbances of mood and fear play a great part in this; they can partly or wholly destroy the suggestibility, either temporarily or even permanently. As a rule, the hypnotist retains what he has already gained. If he has failed repeatedly by his want of skill in a number of suggestions, it will be extremely difficult for him to gain the upper hand later. The autosuggestion that this or that cannot be produced in him, or that this hypnotist cannot do it, takes more and more hold of the hypnotized. For example, I touch a hypnotized person's hand, and say that I make it insensible and dead. However, he still feels, and does not believe me; and when I ask him, "Have you felt anything?" he answers, "Yes." It is very difficult to produce anæsthesia gradually in such cases. This depends partly on the sleep being not deep enough, but not always. I have produced anæsthesia by simple hypotaxis. For example, I do not touch the fingers which I failed to render anæsthetic, but cause the hypnotized to believe that I do, and that he does not feel anything. Then I am able in the next hypnosis to procure a partial anæsthesia gradually, by very light touching. It is just the same with amnesia. If

one does not succeed in producing amnesia in two or three sittings, it will become extremely difficult. However, one may succeed at times, with the aid of certain tricks. For example, one gives the hypnotized a drink of water, and tells him that it is a sleeping-draught, which will make him amnesic, and the like. In short, as Bernheim has said, the hypnotized is not a perfect automaton. He frequently disputes the suggestion, especially at the beginning, and at times refuses it. I might almost say that the chief secret lies in investing the suggestion with the subjective character of a dream, of what has been experienced, perceived, or acted before it has been conceived by the hypnotized person. If it is first conceived as a simple perception, the suggestion only succeeds with difficulty, if at all. Imitation is of great value, and the same may especially be said of the impression which the hypnotist produces on the hypnotized by showing him the results of a case. Those experiments which succeed most easily in the demonstrated case, as a rule, will succeed most easily with the person who watches the demonstration.

The hypnotized can resist each suggestion with a little exertion during the lighter degrees of hypnotic influence which Liébeault and Bernheim call somnolence. He becomes somewhat more suggestible if he remains quite passive.

It is a fundamental error to believe that the hypnotized is under the complete dependence of the hypnotist. This dependence is a very relative one, and is encumbered by all sorts of conditions. It may be destroyed by mistrust, ill-humor, want of respect, etc., at one stroke. Idiotic deceptions, absurdities, and things which are distasteful to the character, inclinations, or convictions of the hypnotized, can only be suggested as sorts of dreams in hypnosis, or can only be suggested posthypnotically for a short time. They will then be refused later by the recollected and reconcentrated or again well-associated waking activity of the brain of the person who has been hypnotized. If one plays too much with such things, one risks losing the whole of one's influence. Suggestion means a sort of tournament between the dynamisms of two brains; the one gains the mastery over the other up to a certain point, but only under

the condition that it deals skillfully and delicately with the other, that it stimulates and uses its inclinations skillfully, and above all things, that it does not make its dealings go against the grain.

Trust and belief on the part of the hypnotized are fundamental conditions for success. One can see clearly here how so-called freewill is a slave to the affections of mood—*i.e.*, how the direction of will is guided by feelings more than by anything else. One influences the will in a positive sense by sympathy, and in the reverse sense by antipathy. Those resolutions which are governed by reason alone take place, as a rule, only when sentimentality is present in minimal traces or is absent altogether.

Typical autosuggestions are the products of one's own brain, and abound freely in all healthy persons. For example, an otherwise healthy person is sleepless, but eats well. I hypnotize her, and induce the sleep. In exchange for this the appetite disappears. The loss of appetite depends on autosuggestion. This example suffices to illustrate the whole series of phenomena. For instance, if we can only go to sleep in a certain accustomed position every night after we have gone to bed, this is due to autosuggestion.

An educated and very intelligent lady, Miss X., once saw me hypnotizing, and was very much interested in it. The power of her imagination, as well as her comprehension of hypnosis, is well illustrated by the following: She awoke during the night at a later date with severe toothache. She then attempted to suggest the pain away herself by imitating my voice, the monotonous tone, and the contents of my suggestions, aloud. She succeeded perfectly in driving the toothache away, and in going to sleep. Next morning, when she awakened, the pain was still absent.

The same lady told me that her friends possessed a remedy among themselves to procrastinate menstruation at will should this threaten to appear on the evening before a dance. They simply twisted a thin red thread around the little finger of the left hand rather tightly. This did not act equally well in all cases, but it acted with absolute certainty in some of them, who

menstruated very regularly, and could delay the menses for any time up to three days. This lady is absolutely trustworthy, and the case is a striking example of unconscious suggestion. This became clear to her after she had seen me operate.

The mechanism of autosuggestion is perhaps best illustrated by the fact that the influencing of the hypnotist can never be perfectly in correspondence with the reaction which he produces in the hypnotized. Our speech is well known to be only a symbol of ideas. For example, if one speaks before a meeting, every one of the audience understands according to the kind of his ideas. This means that the perceptions, the reactions of mood, impulses of will, etc., which are awakened by the speech in every brain are the results of the words listened to on the one hand, and of the individual brain activity (brain mechanism) of each of the listeners on the other. Each one adapts the contents of the speech to his inherited and individually acquired mneme, or associates it with the same, according to his particular peculiarities. There are many agreements which ensue from the unity of the first components, but also many disagreements which are derived from the inequality of the parts of the second group of components. One person laughs where another cries; one assents where the other protests energetically. There are large numbers of partial agreements, and interpretations between agreement and disagreement, according to the kind and degree of education, the temperament, the inclinations, and the experience of each listener, and above all to the way in which he has been influenced in the past. These variations of the reactions are only illuminated by the superconsciousness in part; many, and perhaps the greater number, are of intuitive nature—*i.e.,* they are caused by brain reactions which are not superconceived by us. From these facts it becomes clear that the action of suggestion always must contain elements which were not included in the suggestion of the hypnotist, and must always lack some things which the hypnotist had intended. In other words, every suggestion is complemented and modified by autosuggestion on the part of the hypnotized. But, besides this, the unavoidable incompleteness of every suggestion necessarily requires autosuggestive comple-

mentation. When I suggest the vision of a cat, one person sees it as a tabby, and another as a white cat; one person sees a small cat, another sees a large one, etc. When I suggest a narrow-minded person to a Socialist, he sees him with all sorts of dreadful qualities, while, on the other hand, a hypnotized narrow-minded person associates the same kind of thing with a suggested Socialist, and the like. One can see from this that a psychological observation of the hypnotized person is very necessary, and that suggestions must be quite different if one, for example, wishes to produce the approximately same result in a peasant, an educated lady, and a scientist.

One can possess autosuggestions, especially in the direction of idiosyncrasies, and yet be absolutely incapable of guarding one's self consciously against them. For example, one may instance the dislike for certain foods, or the occurrence of diarrhœa after taking certain substances (milk, coffee,[1] etc.). Conversely, the suggestion of another person is generally capable of counteracting these special central associations.

"Autosuggestion is the ordinary unconceived production of effects on the central nervous system, which are identical with or extremely similar to the effects of other persons' suggestions. This applies equally whether it is caused by perceptions, or by conceptions, or by feelings, which do not, however, arise from the intentional influence of another person." I do not know how to give a better definition for this, and must emphasize that the idea of autosuggestion actually only deserves a separate existence if taken as the antithesis of suggestion, and otherwise is merged with the idea of the so-called psychical reflexes, automatisms of the brain, and hypoconceived dyna-

[1] In my younger days I used to suffer from diarrhœa on drinking *café au lait*, but not black coffee. This lasted for many years, but the action ceased later on. In 1879–1881, when I took black coffee most evenings, I began to have diarrhœa after drinking it. I ascribed it to the coffee, and since then it has become quite impossible for me to take black coffee without getting diarrhœa at once, notwithstanding that since 1888 I have been absolutely convinced that it only depends on autosuggestion. The most absurd, and at the same time most convincing, part of this is that in 1889, when I was in Tunis, I was able to enjoy the Arabic coffee without getting diarrhœa. However, it must be mentioned that it was prepared in quite another way. At the present time only coffee which is prepared in the European fashion causes diarrhœa, but the action is now weaker than it was formerly. The contradictions of these actions are in themselves the best proof of their suggestive origin.

misms of the brain. The fact that peripheral nerve activities are often brought about by this does not alter the fundamental principle that their production is derived from an activity of the cerebrum (perception and the like).

Oscar Vogt's regular investigations of the subjective symptoms in his hypnotized subjects during hypnosis have demonstrated most clearly to him that the subjective—*i.e.,* autosuggestive—reception, supplementation, and realization of the suggestions, and also those autosuggestions which are associated with the suggestions, but which lack all close logical connection with the same, are mostly of an unconceived or insufficiently conceived nature. This means their perception is void of a definite aim. He goes on to say that they thus lack the essential causes of suggestions. The same applies to hysterical autosuggestions.

Suppose that Vogt's suggestion that a person does not see him leads to the autosuggestion of blindness, the investigation of the somnambulistic condition in this case shows very clearly that the conception of being blind was first called into life by self-observation—*i.e.,* by the becoming conscious of the unconceived autosuggestion.

7. Posthypnotic Phenomena.—The posthypnotic influences of suggestion belong to the most important phenomena of hypnotism. Everything which is produced in hypnosis itself can very frequently be called forth also in the waking condition by giving the suggestion to the hypnotized person during hypnosis that it will take place after he has awakened. Not every hypnotized person is posthypnotically suggestible. However, with a little practice and perseverance, one can achieve posthypnotic effects in nearly all sleepers, and even in many cases of simple hypotaxis without amnesia.

Examples.—I say to a hypnotized: "When you awaken, you will get the idea of placing that chair on the table, and will then tap me on the left shoulder with your right hand." After having told him other things, I say: "Count up to six, and you will awaken." He counts, and when he reaches six he opens his eyes. For a moment he looks sleepily in front of him, then regards the chair and fixes it with his eyes. There is frequently

a struggle between reason and the powerful impulse of the suggestion. According to whether the suggestion is unnatural or natural, on the one hand, and to the suggestibility of the subject on the other, the victory is gained either by the former (reason) or by the latter (the suggestion). But I have repeatedly observed, just as other experimenters have also done, that the attempt to resist the impulse of the suggestion may have bad effects when there is marked suggestibility. The hypnotized becomes anxious and excited, and is tortured by the thought that "he must do this thing." In two cases the hypnotized was ready even to undertake a walk of three miles. On one occasion it was to tap me on the shoulder, and on another it was to hand Miss Y. a towel. This impulse may last for hours or days. At other times it is weak, and may even be only a thought, like the remembrance of a dream, which does not impel one to action, and thus the suggestion is not carried out. The hypnotized person only looks at the object, or may not even do that. Still, one can produce the impulse, and eventually have it carried out, if one repeats the suggestion in such cases during hypnosis energetically. Our hypnotized has regarded the chair steadily; suddenly he gets up, takes the chair, and places it on the table. I say: "Why do you do that?" His answer may vary according to his temperament, education, and character, and the quality of the hypnosis. One person may say: "I believe that you have told me to do it during my sleep." The second may say: "I believe that I dreamed something about it." The third acknowledges in astonishment: "I was simply forced to do it; I don't know why." A fourth says: "I got the idea that I ought to do it." Another may give a reasoning motive that he found the chair in his way, and that it annoyed him. In the same way, if the latter has been told in the suggestion that he would fetch a towel and dry his face, he would say that he was sweating profusely. Lastly, the sixth has lost all remembrance of it as soon as he has carried it out. He believes that he had just awakened. It is especially in the last-named case that the action acquires the appearance of somnambulism. His gaze is more or less fixed, and his movements have a certain automatic character, which, however, is lost after he

has carried out the action. If one does not make the experiment ridiculous, and if it is carried out for the first time with the subject; if he does not know anything about hypnotism, and was rendered fully amnesic during the period of the hypnosis, he will not guess that the hypnotist was the sinner, the instigator of his actions. At least, this is so according to my belief and my experience. Some people, however, suspect the hypnotist, either because of the dreamlike remembrance of the suggestion during the hypnosis, or because the same experiment has been carried out with the same subject before; or because they have seen it carried out in others, or have heard or read about such an experiment; or because the whole thing was too idiotic, too nonsensical or unnatural, for them to have originated it spontaneously.

I have said to another hypnotized person: "When you awake you will see me entirely dressed in scarlet, and with two horns of a chamois buck on my head. Apart from this, my wife, who is sitting next to me, will have disappeared, and the door of the room, too, will be gone, and will be replaced completely by wallpaper and paneling, so that you will be compelled to leave the room by the other door." I then speak of other things, and tell the hypnotized person by suggestion to yawn three times and to awaken. He opens his eyes, rubs them several times, as if he is trying to remove a haziness, looks at me, begins to laugh, and rubs his eyes again. "Why are you laughing?" "You are quite red, and have two chamois horns on your head," and so on. "Your wife has gone." "Where was she sitting?" "On that chair." "Do you see the chair?" "Yes." I ask him to feel the chair. He does this unwillingly, feels all around my wife, and believes that he is touching either the chair or an invisible resistance, according to the way in which he has complemented the suggestion by autosuggestion. He then wants to go, but cannot. He only sees wallpaper and panels, and states this while he is touching the door. If I should now open the door, the hallucination may either disappear or continue, in which latter case he sees the space filled with wallpaper and panels, but does not see the open door. Such posthypnotic hallucinations can last for a few seconds

or hours, or in rare cases even for days, according to the suggestion and to the subject. As a rule, they only last a few minutes. I have attempted to have drawings made on white paper of that which I have suggested to the hypnotized. The drawings mostly turned out badly. The people stated that they could not see the outlines distinctly. However, some were not so bad. A very reliable and educated lady, who is related to me, drew the outlines of her suggested photograph quite well. However, she could draw very well, and the whole subject depends largely on this. People who cannot draw obviously hallucinate incorrectly, as they have never learned to conceive and also to perceive quite correctly. Bernheim tells of a lady who could not say whether a suggested rose was real or suggested. I have often made the following experiment: I have said to Miss Z., during hypnosis that she would find two violets on her lap, both of which should be natural and pretty, when she awakened; she would give me the prettier one of the two. At the same time, however, I laid one real violet on her lap. On awakening, she saw two violets; the one was paler and prettier, she told me, and gave me the corner of her white handkerchief, while she kept the real violet for herself. I asked her if she thought that both violets were real, or if one of my evanescent presents, of which she had previous experience, were among them. She said that the paler violet was not real, as it looked so flattened on her handkerchief. I repeated the experiment, with the suggestion of three real, equal-colored, not flattened violets, which were to be possessed of stalk and leaves, and which should be palpable and sweet-smelling. This time I only gave her one real violet. She was completely deceived, and could not tell me whether one of the three, or two, or even all three, were real or suggested. She thought that all three were real this time. At the same time, she held up one hand with nothing in it, and the other hand with the real violet in it. One can thus see that if one suggests the deception for all the senses it will be more complete. I have given another hypnotized a real knife, and told her that there were three. She was fully awake at the time, and could not distinguish the supposed three knives from one another, either when she cut

with them, or when she felt them or knocked them against the window, etc. She cut a piece of paper stretched out for her quite seriously, with nothing in her hand, and stated that she saw the cut, which did not exist, which she had made with the suggested knife. On asking her to pull the two parts of the paper (imagined only as two) asunder, she believed that the resistance which she felt was caused by my hypnotic influence. Later, when other people laughed at her, she got quite angry, and maintained that there were three knives, only I had secreted two of them later on. She had seen all three, had felt them, and heard them, and would not be convinced about the whole incident. On suggesting to the same person the disappearance of a real knife, she did not feel it when it lay in her hand, did not hear it drop, and did not feel anything when I pricked her with it, etc.

Feelings, thoughts, resolutions, etc., can be just as well suggested posthypnotically as hypnotically. The results obtained with the alcoholic woman mentioned in a preceding page and with the menstruation of women were posthypnotic. On two occasions only I was able to produce or to control the menstruation at once during the hypnosis itself.

8. Amnesia, or Loss of Memory.—It is necessary in this place to warn once more most emphatically against the time-honored confusing of this conception with that of unconsciousness. That we do not have any recollection of a certain epoch of our lives or certain things which we have experienced does not prove in the least that we were unconscious of them at the time. This holds good even if the amnesia dates back as far as the occurrence. But, still, we have, as a rule, no other proof that a person was unconscious than his amnesia can give. One almost admits, thus, that it is impossible to prove absolute unconsciousness. One can only speak of a veiling of the consciousness, which is based on chaotic dissociation. As a rule, a person during the period of a deep veiling of the consciousness is amnesic, but not always. And, conversely, one can render some people at will amnesic of perfectly clear conceived experiences and periods of life by means of suggestion. Amnesia of a certain period of time does not necessarily in-

clude irresponsibility during this period, although it is the rule, apart from suggestion.

Our conclusion as to the unconsciousness even in cases of deep sleep and of coma, in which, for example, a patient suffering from some brain disturbance does not show any reaction even when the cornea is touched, is only an indirect one. We usually attempt to verify our conclusion by making out that amnesia existed. There is no such thing as a direct inspection into the consciousness of other people.

When one succeeds in producing amnesia for the time of the hypnosis in a person by suggestion, one has gained a considerable power, for one can thus interrupt, inhibit, or reëstablish his superconscious linkings at will, and can produce contrast actions, which are of the greatest value for the results of later suggestions. One can especially cause him to forget everything which could offer him opportunity to ponder over and to destroy the action of the suggestion, and cause him only to remember those things which assist the action of the suggestion. It is true that at times amnesia is lost, and the remembrance returns spontaneously. But this occurs only in incomplete cases. By means of suggestion, one is able, not only to limit the amnesia to the single perceptions and conceptions, but one can extend it and allow it to embrace past and future time. However, the suggestibility, which is increased by amnesia, has this disadvantage—that very highly suggestible persons, as we have seen, are very easily subjected to any influence, so that the quickly achieved therapeutic results are very rapidly destroyed by deleterious contrary influences, and thus recurrences are produced.

Amnesia, therefore, plays a very important part in hypnosis. I will illustrate its importance by a single example: I attempted to produce anæsthesia by suggestion in an attendant who had toothache. I only partly succeeded. The extraction of the tooth was nevertheless carried out. He awakened, cried out, seized the hand of the medical officer, and hindered him. I quietly went on suggesting, after the tooth was taken out, that he would sleep well, had not felt anything at all, would forget all when he awoke, and that he had not had any pain. He actually went quietly to sleep, and was completely amnesic

when he awoke. He imagined, therefore, that he had not felt anything, and was very grateful and glad about the painless extraction. Later on I made inquiries of him through third persons, toward whom he would have had absolutely no reason whatsoever to conceal the truth. He told everybody that he had not felt anything, and for thirteen years after he had left the asylum, and had an engagement in the town of Zürich, he adhered to this statement. In contradistinction to this case, I have allowed teeth to be drawn from persons who were quite awake, and who had been rendered perfectly anæsthetic by suggestion. These persons, who were otherwise cowards as far as pain was concerned, laughed during the extraction, and did not feel anything. It was only the becoming conscious of the impression of the memory of the pain which was limited or inhibited in the first case, while in the second case it was the becoming conscious of the peripheral stimulation itself during the moment when it took place.

A peculiar case takes up a position between these two cases: A very capable nurse was very frightened of a tooth extraction, although she was fairly suggestible. Nevertheless, I hypnotized her. But she resisted the application of the forceps during the hypnosis. I was able to render the tooth anæsthetic, in spite of the fact that she protected herself with both hands. She awoke with a slight cry when the tooth came out. She declared at once and spontaneously in astonishment that she had felt nothing else than the tooth lying loose in her mouth. She had not had the least pain, and not even a trace of tenderness after the extraction. But she still remembered experiencing much fear. In this case the anæsthesia had succeeded, but I had not been able to remove the fear.

The following experiments, which I have carried out several times with two different persons, appear to me to be of special importance. One of them possesses an extremely noble character from an ethical point of view, and has a high ideal of veracity. In this way the least degree of exaggerating in order to please me is excluded with absolute certainty. I suggested anæsthesia for various parts of the body when she was fully awake. Then I asked her to close her eyes, and took sufficient

care that she could not see the field of my operation by peeping from under her lids. I pricked the hypnotized person in three or more definite places. She assured me that she felt nothing, and did not know what I was doing. I then made her go to sleep, and suggested a current to her that would bring back the feeling in such a way that she would know exactly after she had awakened what I had been doing with her. When she awakened I asked her what I had done to her. At first she had difficulty in remembering, and then she found the places where I had pricked her approximately. However, on repeating the experiment carefully, altering the number of pricks and the situations, I succeeded better. She found the places exactly, and knew definitely that I had pricked her. It might be argued that the rough irritation of the sensory nerves, which had lasted somewhat longer, still persisted, and was perceived afterwards by the reassociated conscious brain activity. In order that I might meet this argument, I repeated the same experiment, only using the sense of hearing instead, and made the wide-awake somnambulist perfectly deaf to certain sounds. Later on I caused the unconceived acoustic impression which had been deposited in the brain to be conceived by means of suggestion. The somnambulists were able to tell me exactly each time what I had been doing. I then asked both of them how they could explain this, and each of them answered, quite independently of the other, that they almost believed that I could use witchcraft. They had neither felt nor heard anything at all when I pricked them or made the noises, and later on they suddenly regained the full recollection of the pricks and sounds. It was absolutely inexplicable to them. Bernheim has carried out similar experiments, dealing with negative hallucinations with equally good results. It appears to me that this proves that the usual reflection of our superconsciousness does not stand in any definite relationship to the intensity and quality of the cerebral activity, and that the cutting off and reintroducing of the reflection of the superconsciousness depends more on associative inhibitions and connections. At all events, this experiment demonstrates that the remembrance of a sensation which is obviously only effected in the hypocon-

sciousness can later on be transferred to the chain of the superconsciousness, even after a complete anæsthesia, which is controlled during waking consciousness. This cannot be due to a suggested falsification of the memory, because the somnambulists detailed the quality and kind of impressions quite correctly, although I had naturally carefully avoided giving the least hint of this in the suggestion. Engrams, which are apparently unconsciously effected, may therefore be ecphorized consciously by association later on.

Dr. O. Vogt has repeated similar experiments for the hearing, sight, and feeling. Simple touches, which were not felt, have been correctly specified even after many hours. Every one of the persons declared that they had absolutely no sensation, but that they now remembered the stimuli quite distinctly. When asked how this could be possible, they either said that they could not understand it or that Vogt must have suggested it to them.

9. Suggestion as to Time (*Suggestion à échéance*).—This phenomenon, which has been so excellently described by the Nancy School, is only a variety of posthypnotic suggestion, albeit a variety of great practical importance.

I said to a hypnotized: "You will suddenly get the idea that you wish to write to me to tell me how you are at noon to-morrow as you are going to dinner. You will return to your room and quickly write to me; then you will feel that your feet are cold, and put on your slippers." The hypnotized person did not have a suspicion of the whole thing after he awoke, and during the following day up to mid-day. Just as he was going to dinner the suggested thought made its appearance in his consciousness, and the suggestion was completely carried out. I said to a hypnotized person (a female) on a certain Monday: "Your menstruation will set in at 7:15 on Sunday morning. You will go straight to the Sister, show her the state of affairs, and then come to report matters to me. But you will see me in a sky-blue coat, with two horns on my head, and will ask me when I was born." On the following Sunday I was sitting in my study, and had forgotten all about the suggestion. The hypnotized girl knocked at my door at

7:35, came in, and burst out laughing. I was immediately reminded of my suggestion, and this was fulfilled down to the most minute detail. The period had set in at 7:15, the Sister had already been shown, and so on. The hypnotized up to this time never had the slightest suspicion of the whole affair and had not even known while she was awake when her period was to set in.

The great importance of *Termineingebung* (suggestion as to time) is apparent. One can order the thoughts and resolutions of the hypnotized person in advance for a certain time when the hypnotist is no longer present. One can further give the suggestion of resolutions of a freewill. More than this, one can give the suggestion that the hypnotized will have no suspicion that the impulse originated from the hypnotist. One can even successfully suggest complete amnesia of the hypnotizing with very suggestible persons. "You have never been hypnotized. If any one asks you about it, you will swear before God that you have never been put to sleep. I have never put you to sleep." In this, perhaps, a forensic danger of hypnosis may be found. Not less than thirteen of the nineteen healthy nurses mentioned in a previous page who slept deeply carried out *Termineingebung*. Thus it will be seen that this is not a rare phenomenon. I have succeeded, as has already been stated, with one of the nurses in this during the first hypnosis.

The views of the hypnotized persons about the source of successful suggestion as to time are highly remarkable. If one asks them how it came about that they did this or that, they generally state that they got an idea at the time suggested, and that they felt themselves forced to carry this idea out. They always tell the exact time at which they got the idea, although one does not usually look at the clock at each thought which one gets. The fact that one has suggested the time causes them to notice it. This must be regarded as an accompanying action of the suggestion. In a few cases the idea appears a long time before. The hypnotized person feels as if he must do this or that, or think of something, at a certain future time. In some cases the idea does not come with the subjective character

of a spontaneous thought, but as a recollection derived from the hypnosis turning up suddenly. In such a case the hypnotized says, for example: "I remembered suddenly at twelve o'clock that you said to me yesterday while I was asleep that I should come to you at mid-day to-day." As a rule, the suggestion as to time, when it takes place, has the character of compulsion, or of irresistible impulse until it is performed. However, the intensity of the impulse varies considerably. It is because of this character that habitual somnambulists usually recognize that they are suggestions, and not their own ideas or resolutions of will. But it is mostly quite simple to deceive them if one suggests beforehand that the character of the unnatural compulsion shall be absent. One substitutes for this, spontaneous resolution of the freewill, and links the suggested thought skillfully and logically on to actual occurrences. In this way it becomes easy to deceive the somnambulists, so that they are convinced that they have acted in response to their free, uninfluenced will.

The most extraordinary part of the whole thing is that the contents of the suggestion is scarcely ever conceived during the waking condition from the time of the hypnosis to the time of taking place. But if one hypnotizes the person during this interval, and asks him during the hypnosis what he has to do at the named time, he generally knows it exactly. Bernheim concludes from this that the hypnotized thinks about it during the whole time, only he does not know about it. I do not believe that Bernheim is right. In my opinion, one should not express one's self in this way, because it disturbs psychological ideas. One is dealing with thinking or knowing in the sphere of the subconsciousness—*i.e.,* with a brain dynamism remaining in the form of an engram behind the threshold of the usual consciousness, which will be repeated by means of a time signal associated with it and with the determined time. It is only in this way that one can explain especially the suggestions as to time which Liébault, Bernheim, and Liégeois achieved even after the course of a year. The feeling of time without any special time signal suffices to produce the suggestion at the correct time for short suggestions as to time. A

proof of the importance of the time signal is that the menstruation can be much more surely and easily regulated suggestively for a certain day of the month—*e.g.*, the first—than for every four weeks. This is so because it is easier to note a definite day of the month—*e.g.*, the first or the fifteenth—than a varying day of the month, with a four weeks' interval.

The phenomena of suggestions as to time are otherwise identical with those of other posthypnotic suggestions.

10. Waking Suggestions.—One can apply suggestion successfully in very susceptible persons while they are wide awake, without having recourse to hypnotic sleep. All the phenomena of hypnosis or of posthypnotic suggestion can thus be produced. One may lift an arm and say: "You cannot move it now." The arm remains in the condition of cataleptic rigidity. One can suggest anæsthesia, hallucinations (including negative hallucinations), amnesia, mutacisms, deceptions of memory, and anything else one pleases, in this way, just as surely as one can do it in hypnosis. The waking suggestion can very frequently be achieved even in perfectly healthy persons, and not only in the hysterical.

Waking suggestibility is mostly gained first in people who have been put to sleep hypnotically one or more times previously. Still, it is possible to achieve marked suggestive actions even in "awake" persons who have never been hypnotized before. A "magnetizer" succeeded in fixing the arm of a very intelligent, strong-minded lady of my acquaintance cataleptically by means of suggestion during the time when she was wide awake; she had never had any previous acquaintance with hypnotism. I succeeded in doing this with two women, who were certainly not hysterical, out of four on whom I tried it. It is much easier than one imagines to obtain suggestive results during the waking condition, without allowing the influenced person to have a suspicion of it, and this takes place more frequently than one supposes. My colleague, Dr. Barth, of Basle, has repeatedly been able to produce complete anæsthesia for minor operations on the fauces and elsewhere by painting the place with a solution of common salt, and telling the patient that it is cocaine, and that the mucous membrane is perfectly

insensitive. Many others have had similar experiences. The influence of the red thread wound around the little finger on menstruation, mentioned in a preceding page, belongs to this category.

One can obtain waking suggestibility in cases where it does not exist by giving the suggestion of this waking suggestion during hypnotic sleep. It will then be self-suggested. I am firmly convinced that one only needs a certain amount of practice and boldness to produce waking suggestibility in a large proportion of healthy persons, since, for example, I was able to do this in the nineteen nurses referred to before.

Among those objections which are constantly being raised by people who do not understand anything about the matter, the following is very typical: "Very well; waking suggestion may be all right and free from danger, but it is quite different from hypnosis." It is to be hoped that the reader will be able to see that such assertions could not be possible apart from a complete misunderstanding of suggestion, and apart from a want of practical experience, after what I have said in the foregoing, and in consideration of what I am about to explain. The phenomena of waking suggestion are absolutely identical and equivalent to those of suggestion during hypnosis. Whether a little more subjective feeling of sleep is associated with it or not can neither increase nor diminish the danger or the importance of the psychological sequence of events. So much is certain. Every suggestive result indicates a dissociative effect, and causes thereby a single phenomenon, which is homologous to that of dream life. As soon as multiple suggestions follow one another rapidly in waking condition, this waking condition as a whole only becomes hypnotic—*i.e.,* dreamlike and sleeplike—thereby. In this way one can compare every suggestive result during waking with a partial circumscribed dream taking place in an otherwise "awake" brain.

11. The Condition of the Mind during the Carrying out of Posthypnotic Suggestions, "Termineingebungen," and Waking Suggestions.—When one has frequently observed these phenomena, one realizes quite distinctly that the condition of the mind of the hypnotized persons in the three cases men-

tioned above must be, and actually is, the same. The mind is awake, but is altered. One asks one's self: In what way is it altered? This question was first put forward by Liégeois,[1] and later by Beaunis[2] and Delbœuf.[3] Liégeois calls this condition, in which the hypnotized is wide awake up to the point which has been "forbidden or commanded" by the hypnotist, by the term *condition prime*. This term is meant to stand as an analogue to *condition seconde*. The latter was used by Adam for the second condition of consciousness in his case (*Felida*) of double consciousness in the waking condition. Later on, however, Liégeois also came to the conclusion that the *condition prime* is only a variety of the *condition seconde*. Beaunis styles the *condition prime* as *veille somnambulique*. Delbœuf, on the other hand, considers that he has proved that in all these cases the hypnotized person has only been hypnotized again, and that one is dealing simply with ordinary somnambulism, only the person has his eyes open. The suggestion is supposed simply to produce a new hypnosis by means of association unconciously. Later on he, however, changed his views, and came to the same conclusion[4] which I have arrived at.

In my opinion, none of these views are tenable, because they are all too dogmatic and too systematizing. Delbœuf's older view certainly holds good for many cases. The onset of the realization of the suggestion may produce the autosuggestion of a perfect hypnosis in posthypnotic and waking suggestion, and also in suggestion as to time. The look becomes fixed, and the hypnotized may even become amnesic for all that has taken place, afterwards. If one generalizes in these cases, one deceives one's self just as much as one does if one generalizes in those undoubted cases in which the suggestion has been realized during complete clear waking condition. It is possible also by means of suggestion to remove everything which is hypnotic, including the intended suggestion, from these conditions, so that the condition becomes absolutely identical with

[1] Jules Liégeois, "De la suggestion hypnotique dans ses rapports avec le droit civil et le droit criminel." (Paris: A. Picard, 1884.)

[2] Beaunis, "Recherches expérimentales sur les condition de l'Activité Cérébrale," etc.: "Somnambulisme provoqué," p. 67.

[3] *Revue de l'hypnotisme*, 1ère année, 1887, p. 166.

[4] *Ibid*, 1888.

the condition of complete wakefulness. One meets with all stages, from the fixed look to a perfectly clear look; from the automatism wanting in sound judgment, in which the most flagrant nonsense appears natural and comprehensible as it does in a dream, to the finest, sharpest self-criticism on the part of the hypnotized, and to the most energetic struggle against the compulsion and impulse of the suggestion. One can even limit the suggestion to such natural and unimportant details, such as one intertwines constantly in the temporal linking of thought, that there is no longer any question even of a *condition prime* (Liégeois's definition). I have observed, apart from individual peculiarities, that the conditions under discussion approach more nearly to actual hypnosis if one suggests a wide, coherent, and at the same time idiotic complex, while it approaches more nearly to the normal waking condition the more natural, probable, limited, and curt the suggestion is. Examples will illustrate this clearly.

I have said to a woman during complete wakefulness that she could not move her arm; I raised the arm at the time. She stared at me, attempted vainly to depress the arm, became confused, and so on. I then added the following suggestions rapidly one after another: "Here comes a lion; you see him? He will eat us up. Now he is going away. It is getting dark. The moon is shining. Look at the great big river there with thousands of fishes in it. You are quite rigid all over; you cannot move at all," etc., etc. In a few seconds all these impressions rush through the consciousness of the woman in the form of perceptions with corresponding sensations. Her mental condition approaches more and more that of the ordinary hypnosis; she becomes like one in a dream. One can say with Delbœuf in this case that "she is hypnotized again."

I have said on another occasion to the same hypnotized nurse: "Every time that the assistant medical officer comes into your ward and you report on the condition of the excitable patient, Louisa C., you will make a mistake and call her Lina C. You will notice your mistake, and attempt to correct yourself, but will not be able to do so; you will always say Lina for Louisa. And each time you call the medical officer "Doctor," you will

scratch your right temple with your right hand without being aware of it." The suggestion was realized. The nurse made the mistake, and said Lina C. instead of Louisa C. regularly in ordinary conversation. It was just like a suggested paraphasia of a word. She noticed it, tried to correct herself, but made the same mistake again, and was astonished at it. Every time that she called the assistant medical officer "Doctor" she scratched herself exactly in the manner I suggested. It was quite extraordinary to see how the unsuspicious nurse repeated the mistake with C.'s name almost every day, apologized, and was astonished; she could not make out what was the matter with her; such a thing had never in her whole life occurred to her before. The scratching, on the other hand, took place quite instinctively, without her noticing it. After some weeks she began gradually to assist herself out of the difficulty by leaving out the patient's Christian name, and simply saying C. A single suggestion sufficed for the disturbance which recurred for so long a time. One would have to assume that the *condition prime* only held good during the speaking of the Christian name and during the scratching, while the rest of her speech took place in the condition of normal wakefulness. But during the time that she is scratching, she speaks of things which were not suggested, and which are quite rational. In consequence, the *condition prime* existed only for a portion of her psychical activity.

I gave the suggestion to an educated young man (a student) during hypnosis that he would tap me on the right shoulder with his left hand when he awoke. He resisted the impulse, for he was very obstinate, and would not allow his freewill to be interfered with at any price. He went home. I told him to come again in a week's time, and when he came he confessed to me that my suggestion had worried him the whole week—so much so that on one or two occasions he was on the point of coming to me (a distance of about three miles) to tap me on the shoulder. Was the whole week, during which the young man was working as usual, listening to lectures, sleeping, and so on, a *condition prime?*

An intelligent, very suggestible nurse was so powerfully

affected by suggestions as to time that she told me that she was quite overpowered by them, and would be compelled even to commit murder if I were to suggest it to her. The impulse to carry out even the greatest nonsense was fearful. Her repeated energetic attempts to resist only increased the impulse the more violently. Once she was speaking to me about hypnotism before two other persons. She said: "But it is always the same, doctor; I must do everything that you have suggested to me during sleep. Still, although I never know anything about it before, I always notice that it comes from you when it does come. There is always such a peculiar impulse, like something strange." I then said to her: "Go to sleep." She went to sleep at once. I then said to her: "After you have been awake for half a minute, you will get the idea, entirely of your own account, to ask me the following question: 'Doctor, I have been wanting to ask you for a long time how it is that one goes to sleep so rapidly when hypnotized. This is not so in ordinary sleep; one takes much longer to go to sleep. How is it? It is very extraordinary.' You will have no suspicion that I have said this to you during your sleep; the idea will originate entirely of yourself. You will have been wishing to ask me for a long time past. Count up to six, and you will awake." She counted to six, awakened, and assured me that she had slept well.[1] Then, about half a minute after, she broke out with the suggested sentence, word for word. Her inquiring tone manifested the highest interest in the matter. I listened quietly to her, answered her in detail, and then asked her how she came to ask me this question. "Well, I have been wanting to ask it of you for a long time." "Is it not a suggestion which I have just given you during your sleep?" "Certainly not; I am not to be deceived; this was my own idea." "But you have deceived yourself notwithstanding. Here are two witnesses, who have heard that I have suggested it word for word two minutes ago." The poor hypnotized girl was quite confounded, and had to acknowledge that she could not recognize every suggestion as such, but could only recognize those which

[1] She slept exceedingly deeply each time. This was objectively unmistakable.

were so idiotic that they could not have been the efforts of her own brain.

A very thorough, intelligent young law student, who was close to his final examination, knew the theory of suggestion well. I was able to put him to sleep deeply, with total amnesia. I once suggested to him that he would go to Dr. D., one of our colleagues here, as soon as he awoke, and ask him his name, where his home is, and also if he has had any experience of hypnotism. This was accomplished, but the student added to this: "I seem to have seen you before. Isn't your name X.?" As the statement as to his home did not coincide, he said that he must have been mistaken, and went away. When he presented himself to me on the following day, I asked him why he had questioned my colleague D. as he had done after his last hypnosis. "I thought that he was an acquaintance, but it appears that it is not so." I asked whether he put those questions of his own accord from his own free will. The student looked at me in astonishment, and said, "Certainly." I asked whether it was not one of my suggestions. "No. At least, I know nothing about it." He then became rather angry, blew his nose, and asked me: "Is it due to suggestion, too, that I have to blow my nose?" (This was not so.) He assured me that he had not had the faintest suspicion that his question to Dr. D. was not due to a natural desire of his own, and was very struck, and at the same time interested, by my explanation.

I could add many more examples, as I have paid special attention to this subject. For example, the posthypnotic hallucination of the lady that she could not distinguish two suggested violets from a natural one which I have mentioned in a preceding page belongs to this category. However, what has been said will suffice to show that one can smuggle and intertwine a suggestion into the normal activity of the waking normal mind in such a way that all outside phenomena of a hypnosis-like character can be excluded. In these cases the "hypnotized" is completely deceived, believes that he is thinking or acting spontaneously, and does not guess at the insinuating suggestion of the hypnotist.

One cannot illustrate Spinoza's statement more strikingly

than by detailing these hypnotic experiments. The statement is: "The illusion of the freewill is nothing else than the want of knowledge of the reasons of our resolutions." We have a real visible demonstration that our subjective freewill is objectively produced. The only difference is that it is caused by suggestions of others in the hypnotized, and by feelings, instincts, habits, autosuggestions, etc., besides the plastic self-adapting activity of reason, in the not hypnotized. This means that it is caused in the latter case by the combinations of engrams of the inherited and individually acquired mneme.

However, an interesting and common intermediate form between actual hypnosis and waking condition consists in the fact that the hypnotized actually has his eyes open, behaves just like a normal person, and does not forget anything; but he shows an unmistakable fixed stare, and accepts unnatural, meaningless suggestions as natural—*i.e.*, he does not wonder at them, and carries them out without questioning them. If one asks him later on, he not infrequently admits that he was a little giddy or dreamy; he was not absolutely wide awake and clear. This would correspond to the *veille somnambulique,* or *condition prime.* This is the early stage of contraction of the consciousness, the commencement of the monoidism of hypnosis with report.

12. Lasting Results of Suggestion.—Can one permanently alter the mind or any nerve function by suggestion, in however slight a degree?

One has been able to give suggestion as to time for a whole year's duration; one has produced sleep lasting for days by suggestion; and, above all, one can show a number of lasting therapeutic results. But still, on the other hand, every one who has taken up the question of suggestion must admit that the action of a hypnosis becomes weakened of itself in the course of time. But I have not been able to convince myself that the hypnotized person gradually ceases to be under the influence of the hypnotist when the latter has kept away for a long time. This used to be stated as a fact. I frequently find, on the contrary, that later, after a long pause—more than half or one year—the results of hypnosis are better than if one

exhausts one's self by continuously hypnotizing a patient or a healthy person.

The therapeutic results of hypnosis appear to me to give the best solution to our question if one regards them closely. I believe that one can only achieve a lasting result either (1) if the attained chance possesses in itself the power of insinuating itself in the struggle for existence between the individual dynamisms of the central nervous system by having been transformed into autosuggestion or habit by means of a single or repeated suggestion; or (2) if the power which is wanting in this change is supplied to it by outside means. This latter can, however, be produced also by suggestion at times. One must always give the suggestion that the result will be permanent. But experience shows that this alone rarely acts completely without the outside means referred to.

Examples. Ad 1.—A child retained the bad habit of wetting its bed. It was compelled by means of suggestion to get up during the night and micturate into the chamber, and at length to hold its urine altogether. The bad habit was replaced by a good one, which at the same time was easy to secure, because it is a normal one. The child had accustomed itself to sleep quite comfortably in the wet bed. Now it has become accustomed to remain dry. It is awakened even by a dream of passing urine. We can obtain a definite cure in this case if no abnormality of the bladder or urethra or onanistic habits continue to act against the result of the suggestion later on.

Ad 2.—A person suffered from migraine, sleeplessness, loss of appetite, tiredness, constipation, and frequent nocturnal emissions, and had become anæmic and thin in consequence. I succeeded in supplying him with sleep, appetite, regular motions, and cessation of the emissions by means of suggestion. In consequence, the anæmia was soon lost, the hypnotized person gained in nutrition and weight, the sleep cured the nervous exhaustion, and thereby also the migraine. The latter can be, however, suggested away immediately. In this way the balance of the organism was regained, and the cure will remain a permanent one if the cause which produced the illness does not return or is not a permanent one.

I therefore believe that suggestion is frequently capable of removing acquired vices and bad habits as well as certain acquired ailments, especially if it is assisted by outside means. But it can never permanently alter inherited or constitutional individual characteristics. In such cases suggestion will only have a transitory action, and the same applies to destructive and also to deeply rooted troubles.

But we do not always know in a concrete case how much of the disturbance is inherited and how much is acquired—*i.e.*, individually adapted. It is often sufficient to remove the acquired factor in order to arrest or suppress the inherited disposition. In this case also suggestion is able to do good. This is what we do when we remove the hystero-epileptic attacks in an hysterical person, for example, by means of suggestion, electrotherapy, or hydrotherapy. The latter are based on an action similar to that of suggestion. The acquired attacks are cured in this way, but the hysterical constitution remains unchanged.

Every long-lasting result of suggestion, as long as it influences activities during the waking condition, is, *eo ipso,* post-hypnotic. Thus it would belong, logically speaking, to Liégeois's *condition prime.* For example, one may cite suggested menstruation, suggested cheerfulness, the cure of stammering and of constipation by means of suggestion, etc. If one were to push formal logic to the extreme, one would have to consider that a person who has been definitely cured would remain in the *condition prime* for the rest of his life. I only wish to point out clearly by this that there cannot be a line of demarcation between the altered condition of the mind during hypnosis and its perfectly normal condition of activity during waking. One can produce any stage or degree experimentally. To a certain extent, graduated transitions are observable in many persons between spontaneous sleep and the waking condition without suggestion. Still, these are produced by the accident of autosuggestion, and are therefore not nearly so exactly graduated or so systematically divided as those produced by means of suggestion.

13. "Hallucination Rétroactive," or Suggested Falsi-

FICATION OF MEMORY.—Bernheim calls the suggested remembrance of what has never taken place "hallucination rétroactive." As one is not dealing in this case with an effective actual perception, nor yet necessarily with the recollection of perceptions—for it might just as well be the recollection of a thought or of a feeling or action—I cannot allow this term to pass. This is not the same, either, as that phenomenon which is called actual deception of memory in psychopathology, since the latter always refers erroneously a duplicate, or a remembrance into the past, in the place of an actual complex of perceptions. However, the suggested process is equivalent psychologically to the wider idea of deception of memory, taken in the sense in which Kraepelin has defined it.[1]

Example.—I said all of a sudden to a certain Miss X., just as a young man who was a stranger to her came into the room (she was awake at the time): "You know this gentleman. He stole your purse at the station a month ago and ran away with it," etc. She looked at him, first somewhat surprised, but was soon convinced. She remembered it exactly, and even added

[1] A. Delbrueck ("The Pathological Lie and the Psychically Abnormal Swindler": Enke, 1891) describes a case of deception of memory in a lunatic in the Burghoelzli Asylum. At first I had regarded it as a simple hallucination; one used to think, erroneously, that one was dealing in such cases with effective hallucinations. This patient frequently suddenly appeared and explained, or wrote in great indignation, that the director or the assistant medical officer had done horrible things to him—had ill-used him, undressed him, etc.—on some past occasion (yesterday or early this morning to a stated hour). The important point of this is—and it can be proved easily—that he did not have the hallucination at the time to which he referred it, but was quietly doing something ordinary, and was in good spirits. He explained the matter in this way: he had obviously been given some narcotic, so that the remembrance of the atrocity only returned to him several hours later. Now, this is the purest form of Bernheim's "hallucination rétroactive," only it was spontaneous and not suggested, and depended on a severe mental disturbance.

Another lunatic in the same asylum autosuggested negative deceptions of memory, which had given rise to the delusion of so-called "creative acts." For example, he said to me: "Doctor, this table only appeared this morning; it was not there before. This is an act of creation. You may say that I am mistaken, but you may only speak in that way if you have higher powers," etc. The table had stood for years in the same place in the recreation-room for the patients. But it was not difficult to prove that this patient had known the table long ago, and had always used it. Thus a real negative hallucination had not actually been present. This had only lain in the recollection, and took place at the time when he regarded the object (in the same way as with genuine deceptions of memory); only the object was blotted out from the past, instead of being again added to it. The same patient constantly had delusions of similar creative acts, as the result of this kind of negative deceptions of memory (retroactive negative hallucinations).

that there was a pound in the purse. She then demanded that he should be punished. If I can successfully suggest amnesia to a person for a certain past time, or for one of his brain dynamisms—*e.g.,* for an acquired language—then I can just as easily suggest an artificial addition to his recollections, as long as I bring the corresponding conceptions into his brain. If I say to a hypnotized person, "You can speak Sanscrit," he will not be able to do so unless he has learned it. If I say to him, however, "You have experienced this or that, or done, said, or thought something," etc., he believes that he has experienced, done, or thought it, assimilates the suggestion fully in the recollections of his past life, and complements in those places where I have left the details out (as in the case of the contents of the purse). A small boy, aged eight years, whom I showed at the meeting of the Law Society in Zürich, swore before God that one of the barristers present had stolen his pocket handkerchief a week previously, in response to my suggestion. He added of his own account, when he was asked, the exact place and time. Five minutes later I suggested to him that this had never taken place, and that he had never said that it had. He denied with just as definite boldness on his oath the charge which he had made a few minutes before, in spite of the indignant admonition of the lawyer.

It is greatly to Bernheim's credit that he has explained these very important facts clearly by means of numerous examples. Bernheim has even given these retroactive suggestions collectively, and produced a number of false witnesses in this way, who gave their evidence with absolute conviction. He has pointed out that it is particularly easy to produce such deceptions of memory during complete wakefulness by means of suggestion, especially in children. These are instinctively inclined to accept, more or less, everything which is told them by grown-up people in a decided tone. Since suggestion can be successful in many cases in which marked influences of imagination act without hypnotic sleep ever having taken place previously, and since this holds good especially for children and weakly persons, one understands how great the danger of the suggestion of a false witness is, and especially of false admissions in

response to the suggestive questions of the examining judge. Bernheim has called attention to the fact that such cases have not infrequently taken place in criminal procedures. For example, this was so in the supposed Tisza-Ezlar ritual murder case, in which a child, influenced suggestively in this way appeared as a witness for the Crown. Lawyers are no doubt in a position to find many such cases among the accounts of celebrated trials. Intimidation and also imitation act similarly in children. It is certain that there is scarcely a boy or girl who dares to refuse to submit to Church confirmation, although most of them would deny all that they had promised then a short time later. In this an undistinguishable mixture of intimidation, imitation, and suggestion, etc., takes part. This is mostly not a conscious lie.

A. Delbrueck[1] mentions a highly interesting tale of the poet Gottfried Keller,[2] which represents nothing else than an excel-

[1] A. Delbrueck, *loc. cit.*

[2] Gottfried Keller ("Der Gruene Heinrich," new edition, 1879, chap. viii., p. 107 *et seq.*, *Crimes of Children*).—"I did not speak much, but took care that nothing of what was taking place before my eyes and ears escaped me. Laden with all these impressions, I then crossed over the way again to home, and wove a great dreamlike fabric out of the material in the stillness of our apartment, and in this my excited imagination gave its council. It intermingled itself with real life, so that I could hardly distinguish it from the latter.

"In this way I may be able to explain a story among others which I experienced when I was about seven years old, and which I could not explain in any other way. I was sitting once at the table busy with some toy, and made use of some indecent, highly vulgar words, which I had probably heard in the streets, and which I did not understand. A woman was sitting with my mother, and was talking to her, when she heard the words, and called my mother's attention to them. She asked me very seriously who had taught me such things. The strange lady especially pressed me, at which I was astonished. I thought for a moment, and then mentioned the name of a boy whom I was accustomed to meet at school. At the same time I added the names of two or three others, all of whom were boys of from twelve to thirteen years old, and with whom I had scarcely ever spoken a word. A few days later the schoolmaster kept me in after school-time, much to my surprise, and also the four boys whom I had mentioned. These boys seemed to me to be almost men, as they were much older and bigger than I was. A clergyman came in, sat down next to the master, and told me to sit next to him. This clergyman usually gave religious instruction in the school, and managed the school generally. The boys, on the other hand, had to stand in a row in front of the table and wait for what was about to take place. They were then asked in solemn tones whether they had uttered certain words in my presence. They did not know what to answer, and were quite astounded. The clergyman then turned to me, and said: 'Where have you heard these boys say these things?' I had collected myself by this time, and answered unhesitatingly, with cool determination: 'In the Brüderlein Wood.' This wood is situated about four miles from the town, but I had never been there in my life, and had only heard people talk of it. I was further asked: 'What happened on that occasion? How did you get there?' I related that the boys

lent example of suggested deception of memory or of retroactive hallucination. Keller's account is so true, and corresponds so exactly with all the details of the psychological phenomenon, that I am bound to believe with Delbrueck that the poet must have experienced the story himself. This appears to be all the more probable, since it is known that Keller, in the "Gruene Heinrich" (Heinrich Lee), has incorporated many experiences of his own life. Heinrich Lee was seven years old at the time of the story. I may add that every one can easily observe in little children, and especially in children of from two to four years of age, the boundless suggestibility and confusion of conception with reality. I have myself watched a girl between the age of eight and nine years who completely forgot to go home to dinner after she had come out of school. She thereupon suggested to herself a perfectly untrue story, according to which she had been invited to dinner by a lady, had been driven to the house in a carriage, etc. She told me the story in all its details, and with naïve conviction. There was no ques-

had persuaded me one day to take a walk, and had taken me to the wood, and described the manner in which bigger boys take a little boy on a rollicking expedition. The accused were beside themselves, and declared with tears in their eyes that some of them had not been in the wood for a long time, and some of them had never been there at all, and none had been there with me. They regarded me with terrified hatred, as if I had been a furious snake, and wanted to heap reproaches and questions on me. They were, however, told to be quiet, and I was requested to say which way we had gone. This appeared at once before my eyes, and, incited by the contradiction and denial of a fairy tale, in which I really believed myself by this time, for I could not explain the real procedure of the scene which was taking place in any other way, I described the road exactly which led to the place. I had only known the roads from casual hearsay, and, although I had scarcely paid any attention to this, I was able to place each word correctly. I also went on to describe how we had collected nuts on the way from the trees; how we had lit a fire and baked potatoes, which we had stolen; and, further, how we had thrashed a peasant boy unmercifully for trying to stop us. When we arrived in the wood, my comrades climbed up high pine-trees, and shouted 'Hurrah!' from their high perches, and called the schoolmaster and clergyman by nicknames. I had long before invented these nicknames of my own ideas, having considered the appearance of both men in so doing, but I had never uttered them aloud. I told them to their faces what those names were at this opportunity, and the rage of the gentlemen was just as great as was the astonishment of the accused boys. After they had come down from the trees, they cut big birches, and told me to climb a small tree and call out the nicknames from the top. As I protested, they tied me firmly to a tree, and beat me with the birch until I said everything that they told me to say, including the indecent words. While I was calling out, they sneaked away behind my back, and a peasant came up at the same moment. He heard the dirty things I was saying, and caught me by the ear. 'Just you wait till I catch you boys,' he called out: 'I have got this one'; and with this he dealt me several blows. He then

tion that she was telling willful lies. The child had no reason to do this, and, besides, she was not otherwise untruthful.

Keller's story and its true importance possesses all the more scientific value, since the doctrine of suggestion was still quite unknown at the time when "Der Gruene Heinrich" appeared. Keller, thus uninfluenced by any theory and investigation of others, wrote down his excellent psychological observation.

In Psychiatry one has long recognized cases of false self-accusations, in which insane patients accuse themselves of a crime which they have not committed, giving the most minute details, and applying to the court for punishment. One also recognizes in the same kind of patients the occurrence of false accusations against other persons. One has hitherto always regarded these things as delusions, which are based on delusions of sinning, or delusions of persecution, or hysteria, mania, and the like. This is mostly the case. The patients are convinced of it; the delusions are compulsory autosuggestions depending on mental disease. But one meets with cases in which these self-accusations are possessed of a typically suggestive charac-

went his way and left me where I was. The light was fading. With much difficulty I freed myself from my bonds, and tried to find my way home in the dark wood. I missed my way and fell into a deep brook, in which I partly swam and partly waded until I came to the end of the wood. In this way, after experiencing many difficulties, I succeeded in finding the right way. I was, however, attacked by a big billy-goat, and fought him with a pole which I quickly tore from a hedge, and beat him till he ran away.

"Such an amount of eloquence as I had employed in telling this story had never before been heard of me in the school. No one thought of asking my mother if she could remember a time when I had come home of an evening wet through and through; but the fact that one or other of the boys had played the truant just about the time of which I had been speaking was brought up in connection with what I had been relating. My extreme youth was believed in, as was my story: this was shot unexpectedly and unconstrainedly from the blue sky of my habitual silence. The accused were innocently convicted as wild, ill-conditioned young fellows; their obstinate and unanimous denial and their righteous indignation and despair only made matters worse. They received the most severe punishment the school could give them, had to take their places on the 'shame' bench, and, besides, they were whipped and locked up by their parents.

"As far as I can dimly remember, I was not only indifferent in respect to the wrong which I had done, but I rather felt a satisfaction in myself that my invention had been so prettily and visibly smoothed by poetic license, and that something of importance had taken place, had been dealt with, and had been suffered, and this as a result of my creative value. I did not understand how the ill-used boys could lament so and be so wild with me, as the excellent course of the story was self-evident, and I was just as little capable of altering anything of it as the old gods were of altering fate."

This last explanation of Keller's corresponds obviously more to the later reflections of the adult poet than to the direct impressions of the child.

ter, and are only associated with very trivial mental abnormalities. I myself have come across a case of a man who accused himself of having committed a murder which another man in reality had committed. He was only very slightly melancholic and depressed. He realized his mistake a few days later, and admitted that the actual murder had made a great impression on him. Shortly before it had taken place he had associated with the accomplice (a female) of the murderer, and then it suddenly seemed as if he himself had committed the murder. It seemed as if he had experienced every single circumstance which his imagination called forth in him. He was convinced, and could not help giving himself up to the police and confessing it all. It had since become clear to him that this was only a deception, just like a dream. Manakow's case (a case of self-accusation in a weak-minded and melancholic person, 1885) was of a similar nature. Here the patient charged herself with infanticide, which another person had committed, although she herself had never borne a child, and was, in fact, a *virgo intacta.*

A similar condition is met with in some hysterical and imaginative liars. These persons lie to themselves and to others continually, but are not capable of distinguishing clearly between that which has been experienced and that which has been invented. They cheat and make up things, either half consciously or quite unconsciously. One misunderstands such people entirely from a psychological point of view if one invests their false statements with the dignity of conscious lies. They are instinct liars; they are incapable of speaking the truth even if they are put on their oath, if they are beaten or despised, if one applies every conceivable means of kindness or strictness in order to get them to give up lying. They only continue automatically and unconsciously to tell one the most simple and useless fairy tales. In my youth I was able to follow up the history of one of my comrades who had this propensity, and attempted every possible means of breaking him of it—in vain. He had inherited this autosuggestive peculiarity from his mother, whom he had never known, as she died a few weeks after his birth. In this case one is dealing with a constitutional

brain or mental disturbance which may have some relationship with an habitual diseased autosuggestibility. The salient symptom of these pathological swindlers can be expressed by the term "pseudologia phantastica" (see Delbrueck, *loc. cit.*). The celebrated swindler of millions, Theresa Humbert, was, in my opinion, certainly of this type.

14. Simulation and Dissimulation of Hypnosis.—It must be apparent to every thinking person, from what has been said, (1) that the judgment of those skeptic *esprits forts* who cursorily dismiss hypnosis as humbug is based on a narrow-minded bias, without a personal investigation of the facts; and (2) that, on the other hand, a careful criticism and self-criticism is necessary in hypnotic experiment, as every one of the experimenters of standing have proved. In the first place, every hypnotized person is weak and accommodating, and tries to guess the intentions of the hypnotist, so that he may carry them out. This, however, is not malingering, but is suggestibility—*i.e.*, plasticity caused by dissociation of the brain activity. One must watch the inconsistency closely which lies between the behavior of the hypnotized person in the state of hypoconsciousness and his statements in the state of superconsciousness. One must take amnesia into account, and is just as little justified in regarding him as a conscious malingerer as one is in regarding him as an unconscious automaton. However, some people half unconsciously simulate the symptoms of hypnosis from a diseased desire of cheating or lying. These are usually hysterical persons, or the kind of liars mentioned above. But since these persons believe their lies themselves, their hypnosis is neither entirely simulated nor yet entirely real. They play with this, add autosuggestions to it, only obey those suggestions which appeal to their fancies, and so on. The more phantastic and dramatic the suggestion is, the better it succeeds with them, as a rule. But these are extremely unreliable subjects. Some schools, and especially the Salpêtrière School, have unfortunately fallen into the error of using such individuals as the bases for their experiments. One further meets with some intensely stupid people who think that one only wants them to pretend to be asleep, and who simulate just

to please the experimenter. Bernheim calls attention to this. However, it is very easy to discover the source of the deception by personal control and by well-directed questions. Still another class is represented by those conceitedly stupid people who become ashamed later on of having been hypnotized, and declare that they only simulated, although they were hypnotized quite well in reality. Bernheim paid special attention to these cases, and I, too, have observed them at times. If one can find them out, a few suggestions correctly applied, as a rule, suffice to compel them spontaneously to confess their false statements at the proper place. Others, again, are firmly convinced that they have not been hypnotized, because they were not amnesic. They say that they did not try to bring the arm down, for instance. In this case, all that is required is a pressing invitation. "Do try to bring it down with all the strength you possess. I will permit it. I beg of you to try, but you cannot do it."

If one shows a hypnotized person that one mistrusts him, one can give him the suggestion without being aware of it that he has malingered, and thus give rise to a false confession of simulation (deception of memory). I have seen a classical case of this kind which was produced by a mistrustful doctor.

The hypnotized person, a man, came to me crying, and confessed that he had not slept at all, that it was all humbug—he had felt all the pin-pricks—and that he had only carried out the posthypnotic phenomena in order to please me, etc. The doctor who had enticed him to make this confession (without doubt by means of suggestive questions, and with the best of intentions) stood by with a serious face. I apparently took it in, gave the hypnotized a good talking to, and said that he ought to be ashamed of himself for having been so weak-minded. I extracted a solemn promise from him in future only to tell me the absolute truth. He was deeply moved as he promised this. Although this scene was very touching, I knew quite well that he had not simulated, for he had been deeply hypnotized, and was totally somnambulic. His expression during the hypnosis and on awakening was of that type which cannot be simulated. Immediately after he had given the promise,

and after we had become reconciled, I hypnotized him again in the presence of the doctor. I then suggested anæsthesia of his hand. The first two pricks of a needle were felt, and he acknowledged this during the hypnosis; but he did not feel anything of the rest of the pricks, and denied having felt anything, and the rest of the suggestions succeeded as they had done before. After he awoke he acknowledged that he had felt two needle-pricks. He did not know anything of the rest, although many of the later ones were much deeper than the first. In this way the hypnotized man was consoled and the doctor taught a lesson.

Oscar Vogt adds the following:[1]

"Such confessions of malingering may naturally depend on autosuggestion as well. In such a case, it presupposes a certain degree of influencing, in which a transitory amnesia at the utmost is present. Two cases may be cited here:

"(1) The patient, whose nervous system was healthy, was somnambulic during the second sitting. He carried out some commands posthypnotically with promptitude. Before he left the doctor, amnesia for the commands which he had carried out was suggested to the patient. He left the doctor perfectly amnesic. He came again in three days, and declared that he had not been hypnotized. He knew all that had occurred. He had only carried out the commands of the doctor to please him. The amnesia had not lasted, and this circumstance had called forth the conception that he had not been hypnotized at all. A renewed hypnosis convinced the patient.

"(2) A medical man who was much inclined to autosuggestions was hypnotized. The patient became somnambulic. A posthypnotic hallucination and posthypnotic carrying out of a command succeeded promptly. The patient, who suffered from sleeplessness, was to take a drink of water in the evenings, and then go to sleep at once. After he awoke, the patient was doubtful whether he had slept. He was absolutely amnesic. During the course of the day the amnesia became lost. In the evening he had already become very doubtful whether he had been hypnotized at all. Since it was just possible, he again

[1] A. Forel: "Hypnotism," third edition.

drank some water, but without going to sleep after it. He then became convinced that he had not been hypnotized."

The two last-mentioned categories of deceptions, as one can see, do not offer any serious difficulty, while the first (hysterical persons and pathological swindlers) is frequently impossible to be sure of, on account of the indistinguishable mixing up with real hypnosis. The only class still remaining to be mentioned is that of conscious malingering for definite reasons. This is possible, and may lead to deception at first, since one has to be careful in hypnotizing a person for the first time. However, the malingerer runs the risk of being caught—*i.e.*, of being hypnotized—if he acts his part too well. If he does not act well, he will not be able to deceive an experienced experimenter for long. But, after all, the whole thing is only done as a rather stupid joke, which but few people are inclined for, and least of all a patient who wishes to be cured.

Professor Fr. Fuchs,[1] of Bonn, has written a very humorous, sarcastic satire on the hypnotic demonstration of a "foreign master," and believes that he has exposed a somnambulist in his true character of malingerer. From his account that this professor "had practiced the important discovery of the distant action of medicaments in sealed glasses," and also from the incredible want of method of the experiments which he had witnessed, I believe that I am not mistaken if I deduce that the master and professor was Dr. Luys, of Paris. If Professor Fuchs only knows hypnotism through Luys, I must acknowledge that I cannot find much fault with his criticism; but one is not justified in stamping brain anatomy as "all bosh" because Luys was guilty of almost as great a want of method in studying the anatomy of the brain, and described fiber systems which only he was able to see, and which undoubtedly do not exist, etc. However, Professor Fuchs arrived, practically, at such-like conclusions in reference to hypnotism.

The experiment which Professor Fuchs carried out to prove that an innocent young man, who had been hypnotized publicly by Krause in Bonn, had been acting is interesting.

[1] Professor Fr. Fuchs: "The Comedy of Hypnosis." (*Berl. Klin. Wochenschrift*, No. 46, November 17, 1890.)

Professor Fuchs himself hypnotized the same young man later on to control the matter. He gave him all sorts of suggestions before he hypnotized him, which, if they should take place, were to prove that the man was malingering—at least, so he thought. There is no doubt that Fuchs was quite unconscious of these suggestions, but they were none the less insinuating. For example, he explained minutely to him that he would later during the hypnosis compress the radial nerve, and that the muscles supplied by it would contract, but actually demonstrated to him the movements which are produced by the innervation of the median. This suggestion which Professor Fuchs so forcibly gave during the waking condition was naturally carried out by the individual promptly during the hypnosis. Professor Fuchs, however, called out, "Caught! Simulation!" and so on. Then he taxed the young man with having malingered, and at length extracted the confession from him (again by suggestion) that "perhaps he had been acting without having been aware of it during the hypnosis." Professor Fuchs did not press him to make a full confession, so that the young man might "beat an honorable retreat," or, in other words, out of sheer humanitarian reasons. I am sure that he could have retroactively suggested a confession to this man if he had wished to, in the same way as the doctor had done in the case mentioned before. Still, in spite of the apparent exposure by Professor Fuchs, the young man had certainly not malingered.

In conclusion, Professor Fuchs adds a very excellent example of the suggestive cure of blepharospasm by electric current from his own practice. He declares himself (just as we do) that the cure was not due to the electricity, but to the imagination.

It is really quite amusing, and at the same time instructive, to note how the whole of Professor Fuch's description from the beginning to the end contains a confirmation of the doctrine of suggestion in nearly all its details, although he certainly did not intend it. It also contains just as sharp judgment on the Charcot School, and, it is true, a harder one on Luys' illusion.

15. The Significance of Suggestion.—I can deal briefly with this, and refer the reader further to what has already been said. The principal significance of suggestion is a psychological and psychophysiological one. It offers the psychologists a scientific method for experimenting, the like of which they did not possess hitherto. That it is a wonderfully delicate and many-sided reagent is shown by the fact that it can influence and modify all the characteristics of the mind down to the finest variations of logic, ethics, and æsthetics.[1]

On looking more closely at it, suggestion is revealed to us as being an invasion into the associative dynamics of our mind. It dissociates that which was associated, and associates that which was not associated before. Its chief invasion is an inhibitory one, is a dissociation of the associated (hypoconceived) automatisms of the mind (brain). The dissociated dynamics of the brain of the hypnotized person are in the condition of weakness or of hypotaxis, as compared with the well-concentrated and associated dynamics of the hypnotist, which press the suggestion into the former by the way of the organs of special sense. Its activity becomes plastically moldable, and is compelled to adapt itself more or less irresistibly to the suggestion. The cause of this subordination does not lie so much in the special strength of the hypnotist as in the feeling and in the conviction of the subjection or the being influenced on the part of the hypnotized person. We are all in the condition of hypotaxis, of weakness, of dissociation during normal sleep, and we then confuse all our thoughts (dreams) with actual occurrences. For this reason sleep is very advantageous for suggestion. During sleep even the more powerful brain must obey the suggestions of an otherwise less powerful brain, which, as it is in a waking condition, is more powerfully associated. But if once a mind A (a brain) has been energetically influenced by another, B, in this way, the possibility of being influenced by the mind B remains by means of the recollection which has called forth the conviction that B is capable of acting on the mind A. Still, it is the activity of the mind (the brain) A which in reality accomplishes the potent action of the suggestion. It is only guided more or less definitely and at will

[1] O. Vogt (see p. 165), and Naeff's thesis on "A Case of Amnesia."

by the mind B—*i.e.*, is incited to dissociation, association, inhibition, or to marked development. Similar processes are at work in the taming of lions and elephants.

B only uses those dynamisms present in A, which work as idiosyncrasies in the dynamisms of the mind A, and which only follow the suggestions from B because they are no longer capable of inducing a conscious general concentration, and no longer recognize their own power. A's dynamisms are therefore taken unawares more and more by B's suggestions, and always follow them more and more automatically—at all events at first.

The same sort of conditions apply to the influence of persons on one another in political and also in social life generally. One meets with it in the case of the ringleader among children, and among animals; in certain prophets and chiefs; in the white man against the colored races; in Napoleon and Bismarck against Europe; in human beings against the domestic animals; and in the victors against the conquered generally, not only in man, but also in animals. One can even observe similar nerve phenomena in insects (ants),[1] when a large number of larger and stronger insects have been impudently taken by surprise by a few weaker ones, and run away without resistance and without pluck, leaving their larvæ and young, whom they usually nurse so carefully, in a cowardly way. This is a very striking suggestion action; but, however tempting they are, one should not attribute a too literal importance to these analogies. They are, after all, only analogous processes.

One must not regard the real influencing of a person by means of pure reasoning as suggestion. But there is a large number of transition stages possible between these actions and those of perfectly unconscious true suggestions.

The historical and ethnological importance of suggestion is much greater than one supposes. I must refer my readers to the estimable work of Professor Otto Stoll, "Suggestion and Hypnotism in the Psychology of the Nations."[2] Its action

[1] Forel: "Fourmis de la Suisse," 1877, p. 314, and "The Psychical Capabilities of Ants," p. 37. (München, 1901.)

[2] Professor Otto Stoll: "Suggestion and Hypnotism in the Psychology of the Nations," Leipzig, 1905, second edition. (K. F. Koehler, antiquarian.)

shows itself in all races, in all grades of culture, and plays an important part especially in religion and mysticism. Stoll has shown that this is so, very strikingly. One can trace it phylogenetically from the lowest developed races down to the various species of the animal kingdom.

An extraordinary historical case, in which autosuggestive hallucination played a part of world-wide importance, is met with in Joan of Arc, the maid of Orleans. I refer the reader to the work of Dr. J. Zuercher on this important subject.[1] I am of opinion that Joan of Arc was a genial and ethically disposed hysteric. Her hallucinations did not depend on a mental disturbance, but on continuous autosuggestions, which were produced by her religious and patriotic exaltation.

As we have seen, suggestion is of practical importance for medical therapy. Habits are often induced autosuggestively, and removed suggestively.

And thus I am brought to the consideration of the pedagogic importance of suggestion. Those who do not understand suggestion will be terrified by the thought of this. But he who has completely grasped it will know how to employ it pedagogically in two ways:

Firstly, symptomatically, one might almost say medically, in order to combat bad and harmful habits and perverse qualities of character. In this case it must be applied in the same way as in therapeutic hypnosis, and, as in the latter case, one must contrive to only use it as long as it is necessary, and not *ad infinitum*. One will have to use all means to make the result a lasting one, which will propagate itself by properly guided autosuggestions.

Secondly, the suggestion regarded from another point of view becomes one of the most interesting of the future problems of pedagogism and of developmental psychology. Every one is aware that some teachers, parents, guardians, etc., can achieve anything they please with children, while others attain just the reverse, and only reap disobedience and contradictions. This depends simply on the fact that the children are subjected to the unconscious suggestion action of the first-named, but not

[1] Dr. Josephine Zuercher (Leipzig: Oswald Mutze, 1895).

of the latter. Repeated unskillful threats, dissatisfaction and complaints that the authority (*e.g.*, of a father) is not respected, powerless exhibition of feelings, especially of the feeling of anger—in short, revealing of weaknesses—are things which, as is well known, produce disobedience, the spirit of contradiction, and, in consequence, obstinacy toward education in children. On the other hand, the man who knows how to teach obedience as a natural, unavoidable thing, and who puts what he teaches above all possibility of dispute, does nothing else than suggest instinctively. He will be instinctively obeyed. Exaggeration of this method, especially continuation of it in children up to an advanced age, breeds the danger of fostering the belief in authority and dependence on others. Reasonable discussion must be introduced into the mind at a suitable time and in a proper place. Once one has grasped that the key of these mental actions and reactions in children is to be found in the proper application of suggestion, pedagogism will learn to use that which has hitherto been applied unconsciously and irregularly with consciousness and system, and will derive enormous benefits from it. Above all, one must suggest in the atmosphere of the school an awakening of interest for the school to the children by means of love and enthusiasm, just as the hypnotist wins his patients over for himself. The secret of the successes of Dr. Lietz's new reform school in Ilsenburg-Haubinda, of Dr. Reddie's school in Abbotsholme, and Messrs. Zuberbuehler and Frei's school in Glarisegg (Switzerland), depends in part on this, while the old school system, on the contrary, often suggests antipathy for the school and teachers to the pupils.

In order to obtain a clear idea of the pedagogic value of suggestion, one must remember that the character of a person at every epoch of his existence is the product of two component complexes, inheritance and adaptation. One usually makes the mistake of attempting to trace everything from one or other only of those two complexes. The inherited disposition forms the deeper, more tenacious power; but it may be implanted at times more deeply, and at times less deeply. In the latter case, it is possible to tackle it by means of consistent educa-

tional (adapted) action all the more successfully, so that on being repeated over again these actions may become habit or secondary automatisms. Suggestion can step in here and work successfully.

I must refer in this place to the important social side of suggestion. One realizes, generally speaking, that good manners are destroyed by bad company, and that young people and women are especially easily corrupted. One recognizes the power of the press, of fashion, of public opinion, of ridicule, of political and religious fanaticism, of trashy novels, etc. But one overrates the capability of the "freewill" of the "free man" to protect himself against these mass suggestions. A closer and deeper study of the conditions shows up the terrible weakness of the majority toward the power of such suggestions. How can a poor girl escape the insidious, cunning traps which the accomplices of the trading procurer sets, assisting himself with every psychological lever of deception, seduction, want of money, alcohol, and intimidation? How does the conceited mass of voters stand toward superficial gossip, and the frequently systemized perversion of the half-educated, who so often take upon themselves, as journalists, to judge customs and to teach the world? And how does it stand toward the machinations of political cliques? We know by experience that a few cleverly chosen words, and not the argument of reason, nor even the simple truth, suggest to the great mass, who are just like a herd of sheep, better than anything else; and that the few more reasoning independent people who will not follow are left in the lurch. When will the contra-suggestion of a healthy human morality gain the upper hand over the destructive suggestions of our immoral politics and literature on the one hand, and of the out-of-date religious mysticism on the other? After all, suggestion does not act in its pure, true form in all these cases; it is combined largely with more or less conceived, misunderstood arguments of reason, and, above all, with feelings and sensations, so that it is, as a rule, difficult to distinguish between these various elements.

16. The Nature of the Action of Suggestion.—That which we know psychologically of suggestion lies, on the one

hand, in the sphere of consciousness, and in the observed motor, vasomotor, secretory, and similar reactions, on the other hand. But how does the matter stand when viewed in a physiological light? What takes place physiologically in those hypoconceived mechanisms which connect the suggestion with its action, and into which hypnosis supplies us with a fleeting, incomplete, merely subjective, and therefore psychological insight by means of sporadic associations of superconceived processes, with the contents of the hypoconsciousness?

Meynert, Wernicke, Munk, Exner, Sachs, and others, have attempted, on the evidence of the results obtained in the anatomy of the brain, to form an idea of the mechanism of the neurokymes of the brain. The synthetic introspection of the latter represents consciousness. The contents of consciousness must always remain fragmentary to us, for the reasons already given. Physiology alone can lead to a doctrine of the mechanism of the mind, as it can supply a complete chain of argument. It is true that we do not possess the key to the mechanisms of life; but we can attempt to explain it, notwithstanding, biologically and approximately, with the help of conclusions by analogy. In my opinion, Oscar Vogt has made the best attempt to explain the dynamism of the brain. I propose to give extracts from his explanation.

Oscar Vogt's Hypothetical Views[1] *on the Nature and Psychological Import of Hypnotism.*—Vogt, in his excellent work, calls the massed mechanism of the brain, which corresponds to a psychological process, "constellation." This constellation is the product of conscious and unconscious (hypoconscious) processes. It influences both the quality and the intensity of the central excitability. It can even exceed in importance, in virtue of its assimilating activity, the peripheral stimulation for the quality of the central excitability. The apparent freedom of will is based on this sort of thing.

Vogt accepts parallelism terminologically, but interprets it in the light of monistic identity, and not of dualism. Peripheral stimuli of too powerful a nature produce unconsciousness

[1] Oscar Vogt: "Contributions to our Knowledge of the Nature and Psychological Import of Hypnotism," *Zeitschrift für Hypnotismus*, 1895–1896 (Leipzig: Ambrosius Barth).

instead of hyperæsthetic phenomena of consciousness in response to a cutting off caused by vasomotor changes. Our qualitative and quantitative psychological powers of differentiating are based on a passive becoming conscious of physiological differences (in this, for example, Vogt accepts the identity theory).

Wherever phenomena of consciousness appear, these tend at once to become synthetic processes, so that man from his youth upward already possesses complex psychical phenomena. The synchronous irritability of the individual elements of the contents of consciousness leads to their association, which becomes fixed by habit. A primary degree of fixation is necessary for a psychological synthesis. Further fixation causes recognition, and still further fixation causes associative reproduction capability. There are simultaneous and consecutive associations.

Wundt uses the term " assimilation " for the fact that in the whole psychological area of the memory of man only those sensations occur which are associated by the co-irritation of the impressions of memory, and not isolated sensations in general. For this reason new elements in alternating sequence are intermingled with the same conception at each repetition, and the conception is in consequence never quite identical—*e.g.,* the conception of a rose.

The principle of psychical synthesis is thus that complete complexes of elements of consciousness are never bound together or intermingled, but only the individual elements. In order that it can be reproduced, an association must therefore be fixed, in so far that it can be excited in its entirety from each of its elements.

Vivid pictures of the imagination are qualitatively much more nearly related to sensations in highly dissociable persons.

The intensity of a conception depends on the intensity of the excitability of the individual elements, while its clearness (Lehmann) depends on the extent of the same—*i.e.,* on the number of elements excited at the same time. These are therefore different things.

Next, psychical energy of an individual forms a constant under constant conditions of nutrition. This may be taken to mean, for example, that one cannot suffer intensely from tooth-

ache, and at the same time follow a play intently. The intensity of one process necessitates a weakening of that of others.

Associations move in accordance with the law of energy, in the order arranged by habit, always in the direction of least resistance. When this appears not to be the case, the cause is hypoconceived.

Vogt explains attention as follows: The center whose metabolism is increasing receives functional stimuli from the centers whose metabolism is decreasing. As a matter of fact, vastly more peripheral stimuli for the senses travel up to the brain than are recognized (felt). These numerous neurokymes, arriving in the brain, are all deflected to the situation where a marked excitability is taking place, and the latter becomes thereby increased. If two centers are equally excited, the neurokymes arriving are divided correspondingly. If a certain center (A) is alone excited, and a neurokyme from without arrives suddenly at a second center (B), exciting it intensely, all the neurokymes will be deflected to B, and the excitability of A will diminish. In this way the attention will be diverted from A to B. Illusions can be produced in a similar manner. For example, suppose that a person is expecting some one. A sound is heard, and this person believes that he can recognize the footsteps of the person expected. The marked expectation has so strengthened the impression of the memory of the well-known footsteps that it drowns the real noise with which it is assimilated, and thus causes the illusion.

These considerations induced Vogt to revert to the old views of Schiff, which state that deflections of the energy of stimulation cause neurodynamic inhibitions, and these are to be regarded as compensation phenomena for conduction taking place in other directions. In this way it is not only the situation of the stimulation, but also its intensity, which influences the quality of the action. Freusberg found, by way of example, that a mild stimulus to the penis of a dog produces an erection, but a stronger stimulus to the erected penis leads to relaxation, but causes at the same time a reflex excitation of a leg movement. This is due to a part of the stronger congested energy of stimulation being radiated from the erection center, and

reaching in this way the center for the reflex excitation of the leg. Since the latter is more strongly excitable, all the neurokymes then travel to it, and the penis in consequence relaxes. A number of similar facts support Vogt's view that the increased intensity of attention is referred to an opening up of a path by attracted neurokymes.

Vogt further adopts Hering's view that all psychical phenomena, movements included, are caused by peripheral stimuli, and that there is no such thing as pure centrogenous movement. Hering showed, for example, that a decapitated frog becomes completely motionless as soon as one divides all the posterior spinal roots. But the direction in which the peripheral neurokymes travel to the central nervous system naturally depends on their constellation for the moment.

Dissociations are constellations deflected from the usual normal condition during waking. Here one meets with all sorts of transitions, from a mild warping of judgment to dreaming.

The diminution of excitability, which we call inhibition, takes the shape normally of a change of nutrition.

A lessening of metabolism causes exhaustion, so that the dissimilation overbalances the assimilation. Anæmia of the brain, which is always associated with sleep, causes a similar process, but is introduced by tiring (dissociation). In a dissociated dream the neurokyme is congested in one center, as a result actually of this anæmia. This prevents the awakening of associated contra-conceptions, and increases the intensity of the dream.

The Theory of Sleep.—I showed the inadequateness of the theories which attempted to refer sleep to a collection of exhaustion products—lactic acid (Preyer)—or which tried to measure the depth of sleep by the intensity of the stimulus necessary to awaken (Kohlschuetter), as far back as the third edition of this book. I have shown, as the earlier experts on dreams (Maury, *inter alia*) have done, that the brain can be exhausted without sleeping, can sleep without being exhausted, and that faint stimuli may awaken when strong ones fail. In brief, I showed that sleep undoubtedly is connected with suggesting mechanisms which are adapted in quite another way,

even though they are favored by exhaustion. Oscar Vogt now develops a very ingenious view, which in general is in accordance with this, only it takes physiological conditions further into account.

We have seen that the excitability of centers increases by conduction if no other stronger excitability acts by deflection. There are certain centers, among which the reflex center for the closure of the orbicularis oculi muscle may be cited, whose excitability tends to call forth the neurodynamic processes occurring on going to sleep. When the cerebral cortex is less excited as a result of exhaustion, the neurokymes are guided to those centers. But they may also be excited by association, suggestion, etc., and sleep may be produced in this way. One of the vasomotor reflex centers, however, is still more important. This center, when excited, causes an increasing anæmia of the brain, and this produces dullness, etc., and sleep. Mosso has proved beyond doubt that an anæmia of the brain is associated with sleep. But observation and hypnotism particularly prove that this can be produced by means of associated reflexes, and not only by means of exhaustion. In consequence, such a vasomotor center is a direct postulate. It is a general law of our life that increased activity is associated with hyperæmia, and lessened activity with anæmia. But this law can only be brought into line with the facts of sleep by the help of the supposition mentioned above. Vogt gives a number of further proofs for this. In this way it is explained why undressing, the bedroom, the sight of some one yawning, the accustomed hour, and similar sensations or conceptions, induce the conception of sleep, and, by working out paths for themselves, act upon the reflex centers of sleep, cause the eyes to close, and introduce the anæmia of the brain. A single remembrance or an association thought associated with a previous going to sleep may even suffice to produce this action. In this way the rapid achieving of sleep by suggestion is perfectly explained. It is not necessary for the person going to sleep to be conscious of the act of going to sleep or its causes, for the goal of sleep, toward which all the neurokymes aim, is not the conception of sleep, but is the subcortical sleep center.

The functional rest of sleep repairs cerebral exhaustion, should this be present! The excitability of the cerebrum is thereby increased again, and more neurokymes are again guided to it. The anæmia lessens, and one awakens gradually, if a stimulus does not suddenly produce the awakening by a more powerful conduction of neurokymes.

It is primarily the cerebral cortex whose excitability is diminished during sleep. In the early stage of sleep (tiredness) a tendency for motor expression shows itself, probably in consequence of the simplification of the reflex arch. In a higher degree of this simplification, before functional incapability sets in, the so-called catalepsy, the *flexibilitas cerea,* takes place, in which a limb remains in any given position. During the condition of waking all constellations are purposefully employed, distributed, and active. If the choice of attention does not keep the arm raised, the neurokymes will be required elsewhere, and it (the arm) will fall. But during sleep there is a degree of diminution of the excitability of the cortex in which the neurokymes arriving can no longer radiate sufficiently on the association tracks, and therefore stagnate at the direct terminals of the centripetal track. The excitability of the muscular sense can evidence itself in this case only by movement, but this takes place in consequence more strongly. Vogt, basing his opinion on probabilities, concludes that this phenomenon is cortical, and that it causes catalepsy (fixation of passive positions).

This cataleptic stage lies in point of time between deep sleep and the waking condition; it occurs, therefore, before waking and after going to sleep. It can be demonstrated frequently in normal sleep, but its duration varies considerably in different individuals. The degree of the rigidity also varies. Liébeault has shown that one can produce it in normal sleep by repeatedly raising the arm.

The next stage is that of complete relaxation, in which the neurokymes diminish in the cortical muscular sense, and withdraw from the subcortical centers.

Vogt quotes the experiments of Bubnoff, Heidenhain, and Janet in support of his view. The cortical nature of catalepsy

and of hysterical anæsthesia is deduced from these experiments.

The associations of ideas in dreams are of a passive nature, and acquire the subjective character of impressions (Vogt always uses this word for perceptions as well). Voluntary thinking ceases, and the connection between the conceptions becomes loosened; the person going to sleep becomes increasingly passive toward them. From this a kind of subjective flight of thoughts arises, which, however, corresponds in reality to an inhibition of thinking (Ashaffenburg, Kraepelin), and to a slowed course of ideas.

Vogt argues against me because I accept an uninterrupted dreaming during sleep, and believes that the fact that one finds oneself in the midst of a dream chain if one is suddenly awakened out of a deep sleep proves nothing. This could take place so quickly that the commencement of the dream chain could have set in at the moment of being awakened. My observations contradict this explanation, because the suddenness of the awakening was too great to have possibly allowed sufficient time for so many dream linkings. The tone on awakening frequently became interlaced with the ending of the dream chain. One cannot lay any weight on the subjective statements of not having dreamed, on account of the usual amnesia. On the other hand, one must admit that absolute proof, at all events at present, can hardly be obtained.

As a rule, slightly excitable associations, which occupied us considerably in the past, take place during dreaming (railway scenes, examinations, etc.; for example, I often dream that I am an assistant or the Director at the Asylum again). This is due to the diminished excitability of the cortex. I may add that peculiar associations insinuate themselves from unconceived chains into the dreaming consciousness.

There are two kinds of dreams:

(*a*) The usual completely dissociated, diffuse dreams.

(*b*) The contracted dreams of somnambulism, which correspond to a contracted consciousness or monoidism. In this the neurokymes stagnate in a definite area. One might almost say that a partial waking during general sleep takes place. In

this special area even the perception and the thinking increase not only in clearness, but also in intensity. If one follows the same phenomenon still further, one meets with a partial sleep during the general condition of waking (see pp. 148 and 149).

Thus the diminution of the excitability of the cortex during sleep is irregular. That small stimuli are capable of awakening when strong ones fail is explained by this. In such a case the neurokyme of the stimuli meets with associations which are but slightly diminished in their excitability, and thus a partial awakening may take place while the general sleep is continued. We meet with this in hypnotic "rapport." The general anæmia of the brain prevents the radiation, and causes the locally awakened elements of consciousness to be abnormally strongly excited by the stagnating neurokymes. The condition of consciousness of the systematic partial awakening is the same as that of somnambulic dream.

Vogt further shows the great difference between the dreams (*a*) and (*b*). The dreams in (*b*) are connected with perfectly ordered actions. On the other hand, the most complicated actions are dreamed of in (*a*), but are not carried out. This is due to the diffuse dissociation, which does not allow any ordered sequence of conceptions of movements to arise. The action is suddenly accomplished in the consciousness, but there has been an omission of the conditions of its having taken place. It is quite different in (*b*), where the whole localized functionally isolated chain from the sense to the cortex and from the cortex to the muscle is accomplished perfectly regularly.

Vogt shows further that the ethical associations often, but not always, remain normally connected in somnambulists and revolt against criminal demands, while one usually murders, steals, etc., with absolutely defective ethics, in the ordinary dreams.

A chain of actions is not infrequently continued after sleep has set in (a coachman doses off and drives on). I myself when a student have fallen to sleep during a dry lecture, and have continued to write, even beginning to write down fragments of dreams.

Feelings.—According to Vogt, feelings are of no value for

the production of normal hypnosis, but are of importance for the production of hysterical hypnosis and of the hypnosis of fright.

Feelings appear usually as accompanying phenomena (shade of feeling) of the intellectual elements. By mood (*Stimmung*) one understands the collective condition of feelings at any given time. By the term "attitude of mood" one means the disposition or tendency of the frame of mind to react on the appearance of one or other of the intellectual elements with this or that mood.

We are not able to localize feelings in space. From this fact, Vogt thinks that he can agree with Lipps that they cannot be deflected from sensations. I do not consider that this argument can hold good, for pure intellectual abstract things also exist which are not in themselves capable of being localized as far as place is concerned (let me instance the idea of independence or that of the pitch of a musical tone), and can, notwithstanding, be deflected from sensations.

Feelings must be regarded as being elementary. While Hoeffding and others only accept two fundamental qualities of feeling, inclination and disinclination, Wundt accepts three opposite pairs of qualities: (1) inclination—disinclination; (2) excitability—inhibition; (3) tension—relaxation.

Vogt's attempts with an exceptionally suitable person, who had been educated up to this for a considerable time, only yielded at first two sharply differentiated series of opposing feelings, which appear markedly in the contracted condition of consciousness in hypnosis, and which can be analyzed: (1) Pleasant—unpleasant; (2) elevating or exhilarating or making easier—relaxing or depressing or rendering sad.

Vogt calls the first series hedonistic, and the second series sthenic. They correspond to the first and second quality pair of Wundt's classification. While both series took place approximately parallel with pressure and pain, this was less marked with taste and smell, and was not the case with stimulation of hearing. In the last-named case they were rather inversely proportional.

One gathers from Vogt's very extensive experiments that the weakest grades of the intellectual elements (sensations) are

quite indifferent (without accentuation of feeling). In the somewhat higher grades an accentuation of inclination appears, which increases; in a greater intensity the inclination again diminishes and a second indifference point appears, which in its turn is followed by disinclination in still further increased intensity. Even in sensation of pain there is behind the threshold of inclination "a pleasant pain," although the sensation of pain, as Max von Frey has shown and Vogt has confirmed, is qualitatively different from the sensation of pressure. The same applies also to the sthenic series.

When one is not dealing with direct sensations, but only with the reproduction of the same by conception, the intellectual elements naturally awaken the shades of feeling which were formerly associated with them.

Persistence of emotional elements after the disappearance of the associated intellectual elements can be demonstrated. But one is, of course, only dealing with the conscious field, and intellectual elements may persist hypoconsciously. If one succeeds in rendering the intellectual element conscious again, one heightens the feelings. Vogt's excellent experiments therefore show:

1. That the feeling in the consciousness at least may outlive its intellectual substratum.

2. That feelings can enter into the consciousness even without an intellectual substratum.

Still, the latter only applies for the psychical series (the introspective side); a physiological process is always unconceived in the background.

Every feeling is accompanied by a deflection of nervous stimulation energy in the transcortical and subcortical tracks, and is produced slightly later than its intellectual substratum. The feelings are therefore, no doubt, psychical parallel processes of the deflection processes of the energy of nervous stimulation. In the language of the identity theory, I should say that feelings represent the introspection of the deflection processes of the energy of nervous stimulation. Since such deflections take place in every area of the brain, there can be no localization for the feelings.

Vogt deduces from this that a desire is contained in every feeling, or that the will manifests itself through the feelings, and is not materially different from feeling. Vogt's work is, unfortunately, still incomplete; but it points out the way in which one can use hypnotism for psychological investigation, and throws a luminous light on to the whole question of the relation of psychology to the physiology of the brain.

In the third edition of his work Vogt states the following in special relation to the mechanism of suggestion:

"We call every deflection which diminishes the irritability of the individual neurones as such, as a rule, inhibition. We speak of the inhibition causing the psychical balance by means of the association of ideas. An hysterical person complained to me of motor weakness. His dynamometric grasp was $l = 97$. I thought that this was not so bad. From this time onward his highest grasp was 50, and the average was only 28. What had taken place? The track between the movement conception of the grasp and that of the motor weakness had become more strongly conductible by means of an irritation issuing from the center for the latter. A part of the neurokyme arriving at the center for the movement conception was deflected from this time into this track. I was also enabled to observe the reverse. A psychopath got the hypochondriacal conception that he was very weak. This conception paralyzed his grasp by deflection so much that he could only press $l = 65$ and $r = 55$. I then produced absolute anæsthesia for the affected arm by waking suggestion. The grasp was naturally reduced to $r = 0$. I then suggested to him that amount of feeling to give him free movement. He pressed $r = 115$ and $l = 120$, having at the same time a numbed feeling in his joints. I had caused a localized dissociation by means of the first suggestion. As a result of a constellation favoring me, the dissociation—*i.e.*, the cutting off of the deflection—persisted in the second suggestion for the hypochondriacal conception. The track between the center corresponding to the latter and that of the movement conception did not deflect again, or, as one can also express oneself, the hypochondriacal conception was for the time being forgotten. The higher centers further inhibit the

lower ones by such-like deflections of a part of a neurokyme.[1] In the case in which the deflection is rendered impossible on account of functional or organic changes, the motor discharge of the neurokyme, which now only passes through one lower center, increases in intensity and rapidity.

"In opposition to inhibition, one calls the increase of the excitability of a center by conduction of neurokymes along various tracks 'simulation increase,' or opening up of a path (*Bahnung* of Exner). I suggest to a person that his forehead shall become warm. I shall succeed in this suggestion more easily if I place my hand on his forehead at the same time, for I stimulate the corresponding center for the sensation of touch by laying my hand on the forehead. This is then connected with the corresponding center for the sensation of warmth through a track which conducts well as the result of numerous previous simultaneous excitabilities. The neurokyme produced by my touching the forehead takes this course, and acts by opening out a new path.

"All those inhibitions and the opening out of new paths to which the course of all nervous processes, and also the whole phenomena of suggestion, are traceable are produced in this way. The art of the hypnotist consists in the suitable application of such inhibitions and opening out of new paths, and the nature of the training consists in the reaction of such-like influencing on the more widely distributed association of ideas.

"Let us look at the mechanism of catalepsy, for instance. Suppose that I lift the arm of a hypnotized person. The arm will remain in the position in which I have put it. I produced a corresponding sensation of movement by means of a passive movement. The association tracks deflecting the conception of this movement from the center have become incapable of conducting on account of the hypnotic dissociation. As a result of this, the neurokyme excited by the passive movement of the arm moves mainly along the track leading centrifugally from the center for the said conception of the movement, and causes a muscular contraction which corresponds to the pass-

[1] "It is advisable to call progressing nerve excitability, as long as we do not thoroughly understand its nature, by some unprejudiced term, such as 'neurokyme.'" (Forel, "Brain and Mind".)

ively determined position of the arm. The hypnotized person, provided that he is only hypotactic, 'feels the arm suddenly becoming rigid after it had been raised.' In this case one is dealing with Bernheim's 'passive catalepsy.' It differs from an active movement in that in the latter case the movement conception is prompted by an association of ideas or by the 'will,' while in our case it is prompted by a peripheral stimulus. Passive catalepsy always occurs when the movement conception is sufficiently dissociated, but can still be excited sufficiently. If the sleep has become so deep that the movement conception can no longer be sufficiently excited by means of a peripheral stimulus, a passive catalepsy can no longer be achieved. One meets with a corresponding depression of the excitability of movement conceptions in hysterics, whose sensibility for touch has become diminished in one or other extremity, although the kinæsthesia is retained. The extremity in this case is paretic during the condition of waking, and is extremely difficult to render cataleptic during hypnosis. Numerous components which open out new paths and act inhibitorily take part in the exciting of the movement conceptions. Among these, the stimulus opening out a new path which leads from the center for the sensibility of touch to that of the actual muscular sense plays an important part.

"Other stimuli which forge new paths for themselves, therefore, are required in the case of insufficient dissociation or depressed excitability of the movement conception. Here one should first have recourse to verbal suggestion. The arm which has been raised falls limply to the side, but as soon as I declare that the arm has become rigid the onset of the corresponding muscular contraction is felt. The influence of the association of ideas which finds new paths for itself can connect itself both with a passive movement and with a verbal suggestion. We call this monoidism. For example, I hypnotize a subject. I lift his arm up. This falls again to his side. I awaken the subject. I then hypnotize a second subject in the presence of the first. Here the catalepsy succeeds at once. On hypnotizing the first subject for the second time, I succeed in producing catalepsy also in him. In this case we are dealing with Bern-

heim's active element of catalepsy. The following conception connected itself with the sensation of the passive movement of the arm in this subject: ' The holding of my arm in this position is the will of the hypnotist, but I must do as he wills.' The sight of the catalepsy produced by the hypnotist in the second subject created a conducting track in the brain of the first subject leading between the conception of the hypnotist and the conception of the movement concerned. If the hypnotist now raises the arm of the first subject, the conception of the hypnotist at once appears vividly. Stimuli issue from the center of this conception to the center of the movement conception. The association of ideas can become more complicated and more similar to the voluntary movement preceding it in this connection, and one cannot find fault with the subject if he says that he has only done this to please the hypnotist.

" Forging out a new path by means of monoidism plays an important part in all complicated suggestions, and especially in waking suggestions. They rob even the ' rapport ' completely of its mystery. If the mother or the doctor sleep on through a loud noise, but awaken when the child cries or when the attendant knocks, we are only dealing with excitability which has been increased by former opening out of new paths, as in the case in ' rapport.'

" In what has been said above inhibition has been deprived of all activity. Inhibitions are compensation symptoms for the deflections which have arisen elsewhere. As can readily be seen, one is only referring to those inhibitions (Wundt's neurodynamic inhibitions) here which represent the direct result of nervous processes. Apart from these, there exist inhibitions (Wundt's vasomotor inhibitions) frequently interacting in response to an increase of the resistance in the conduction caused by tiring or by some alteration of the metabolism. However, as long as we are dealing with the neurodynamic and not with the nutritive inhibitions, we should be able to prove the existence of deflection arising in other ways—that is, the aspect of our suggestion which opens up new paths.

" Let us test a negative hallucination produced by waking suggestion. I give the suggestion that the subject will not see

me on awakening. The result is extremely varied, but there is always a parallelism between the deflection and the inhibition which one can discern. The greater the inhibition is, the greater will be the deflection also.

" One person sees me as usual, but does not recognize who I am. Here there is a dissociation between the primary and secondary identification, between the center of the optical picture of the memory and that of the comprehension. This dissociation is a picture of memory which has long since been formed, which has been produced by former excitations, which has since existed latent, and which has now been reawakened. The influence of my suggestion opening up new paths caused this dissociation to appear in the foreground. To quote one possibility, my subject passed me by one day, while he was thinking out a problem, without recognizing me. I then crossed over to him, and found out in conversation that he had not recognized me. At the time when my subject met me stimuli traveled from the center of the problem occupying him along all the deflecting tracks. This also applied to the optic track. We are justified in assuming a direct or indirect connection of every nervous center with all the others. The association fibers leading to the center for the problem are for the time being naturally more easily excitable than any of the other deflecting efferent fibers of the optic center. A large part of the neurokyme which called the visual impression of me forth was deflected along this track. As a result, the center for the conception of my person was not sufficiently excited to render the subject conscious of it. The conception of the non-recognition was first connected during the conversation with the center for the conception of my person, and then with the problem by means of simultaneous associations. However, the conception of the non-recognition was further connected to the optical center through the center of the problem. If I now produce the conception of non-recognition of my person in my subject in a sufficiently intense manner, an excitability travels through the center for the problem to the optical center for my person, and forges a new path for itself. The neurokyme, arriving in this situation, which my person has excited in the

optic nerve, is thus deflected without arriving in the usual track in sufficient force to produce conceived parallel processes in this place. The secondary identification is wanting. One might state in opposition to this that the subject did not identify any visual impressions secondarily as he went along pondering. Then, why should he not identify now the visual impressions which he received from me? The cause lies in a double opening out of new paths. During the conversation which followed the occurrence the visual picture of me was vividly excited. An association took place in consequence between the center for the problem and the visual impression of me, which was more intimate than the associations between the former and any of the other optical centers. To-day, as I gave him the suggestion not to see me, I awakened in the subject the optical components of the conception of myself very vividly by means of sight directly, as I had done before. As the excitation arrived at the optical center through the center for the problem, the association fibers, which were the best conductors, naturally seized a large proportion for themselves. But the track to the center for my person belonged primarily to these, as a result of the stimuli which occurred directly before. This track, which is usually of secondary importance, becomes for the time being the chief track. The visual impression of myself is deprived of its usual associations for the present. It becomes dissociated by the opening up of new paths. That parts of the neurokymes have at the same time reached other portions of the optic center proves that suggestions which are sensorily connected can now succeed much more easily. I only need to ask the subject whether he recognize this person or that object. This suffices frequently to connect the optical center of the object to the deflection system. That this takes place more easily in connection with objects which are closely associated with me naturally depends, again, on the opening up of new paths which can be employed by them at the time when the visual impression of me is excited in the subject. One could argue further in objection to this that such a favorable past history is not usually present in the majority of experiments. That is certainly true. But it is not necessary that it should

be present. Every one of us has passed by persons with whom we are acquainted without recognizing them. The conception of me which the subject possessed at the time of the experiment contained that of a person of his acquaintance as an essential component. The track was therefore present. It only wanted strengthening.

"Every dissociation called forth by suggestion depends on the reappearance of earlier conditions of conduction, of earlier constellations, just as in the case dealt with in detail in the preceding paragraph. The form of the dissociation, and hence that of the reception of the suggestion, is therefore connected singly in consequence of the past experiences of the individual. Whichever case is the least latent, and is most easily excitable, now appears in the consciousness, and this takes place so vividly that the subject believes that he is experiencing it at the time. A second subject sees as if he had a mist before his eyes, because the recollection of the not seeing his acquaintance was most easily connected with dusk. A third subject declares that he is blind. The conception of not seeing was associated most strongly in him with the conception of blindness. This, then, became vividly excited. The conditions of conduction became prominent as one of its components in the optic center, which conditions corresponded to an earlier sensation of blackness. The center for black absorbed such a proportion of the neurokymes arriving that the latter could not cause any further excitability which could enter into the consciousness.

"I will add two more examples of hysterics, in proof of the correctness of the principle propounded.

"I gave to one of these the suggestion mentioned above. I disappeared, but she still saw the surroundings. She soon became very excited, rushed about in an anxious manner, and exclaimed that she was becoming ill again, she could not think properly, and that she saw everything red. The patient explained then, after I had again quieted her, without having removed the recollection from her mind, 'her illness had begun in this way; she had not been able to see anything: it had all become confused and mixed in front of her eyes. She had forgotten all about it till now, but it had now all returned to her.'

"The second patient was brought into the clinic paralyzed and dumb, after she had been found in this condition in the street. One day, after the symptoms had disappeared, I gave her the waking suggestion of complete anæsthesia. The suggestion succeeded, and the patient became correspondingly paralytic. Noticing a change in the expression of the patient's face, I removed the suggestion. But it was too late. The patient moved slowly and rigidly about, and did not recognize her surroundings. She was again dumb. I hypnotized her, and suggested clearness and recollection to her. The patient then acknowledged that she had believed that she was lying in the street. The memory of the past attack had thus been recalled.

"We have therefore explained the mechanism of the subjective complementation of all suggestions on the part of the hypnotized person, and especially the constant changing condition between positive and negative hallucinations (see p. 90), by the referring back of the inhibitions to other paths which have been opened up.

"If we refer all suggestion phenomena back to one-sided paths which have been opened up this would have to hold good for the most important suggestion as well—*i.e.,* sleep. Sleep is produced in the new-born by means of certain dynamisms of the lower brain centers depending on chemical changes, probably a vasomotor character chiefly. Certain sensations which appear more strongly as the consciousness increases (parallel with the development of the cerebrum) precede this reflex sleep. These are increasing bodily and mental heaviness, and especially the feeling of heaviness of the eyes, which is chiefly excited by the gradual reflex contraction of the orbicularis muscles. These associate themselves gradually to form a complex, the conception of sleep, by means of mutual opening up of paths. If one of the sensations appear at a later date in response to a stimulus, the others will follow, as the excitability will spread along the tracks which conduct well. Further simultaneous associations then lead to a connection in the tracks between the conception of sleep and the lower centers, producing sleep. This track becomes such a good conductor that ultimately it is the conception of sleep which produces sleep.

We thus produce a general dissociation, caused by a change of the metabolism, by means of suggestive excitability of the conception of sleep. We create in this way, by means of opening up a path, a suitable soil for the action of further opening up of new paths.

"In this manner the conception of sleep obtains a purely motor character. But this is only a special case of a general law dealing with the development of brain mechanism. In the same way all voluntary movements have developed from involuntary ones by the sensations of reflex movements becoming the causal conception, or the impulse of the will. The doubt with which one at first opposed certain suggestive results was based on the fact that this developmental process is further advanced than one could suppose from the position of our anatomical knowledge. These—*e.g.,* the influencing of the intestinal peristalsis, of the vasomotor nerves, and of the secretions of glands—are established beyond all doubt at the present time. Their dependence on the sensations indicates in itself a connection of their centers with the cerebrum. The doctrine of suggestion has proved that those dulled, scarcely conceived sensations, have already become weakly motor conceptions. A prospective insight into the further development of our cerebrum, and into the increasing subordination of the reflex movements beneath the intelligence, is opened out by this."

Dr. O. Vogt wishes that the hypothetical character of his theoretical discussions should be preserved, and I therefore call especial attention to this wish here.

Ed. Claparède expounds a "Théorie biologique du sommeil,"[1] which agrees in the main with ours; he sums up the details as follows:

"Le sommeil n'est pas la conséquence d'un simple arrêt de fonctionnement; il est une fonction positive, un instinct, qui a pour but cet arrêt de fonctionnement; ce n'est pas par ce que nous sommes intoxiqués, ou épuisés, que nous dormons mais nous dormons pour ne pas l'être."

Claparède therefore endorses what is being said in this chap-

[1] Ed. Claparède, "Théorie biologique du sommeil." (*Archives des sciences physique et naturelles de Genève,* March, 1904.)

ter and in Chapter XIV ("Suggestion in Animals"). It is evident that if sleep sets in on the one hand actively and suggestively or autosuggestively, and can even be voluntarily brought about, and on the other hand is adapted to the object of the reconstruction or assimilation of the brain neurons, it must have been developed in animals phylogenetically in an instinctively automatic fashion.

I may mention, as belonging to the works on the theory of suggestion, the articles by Professor Lipps,[1] Dr. Doellken,[2] and Dr. F. Koehler,[3] all of which are highly valuable and interesting, and have been placed by the side of other works of O. Vogt's in the *Zeitschrift für Hypnotismus.* Still, these contributions do not compare with Vogt's attempts at explaining the matter.

[1] Professor Lipps, "Zur Psychologie der Suggestion."
[2] Dr. Doellken, "Zur Physiologie der Hypnose."
[3] Dr. F. Koehler, "Experimentelle Studien auf dem Gebiet des hypnotischen Somnambulismus."

CHAPTER V

SUGGESTION AND DISORDERS OF THE MIND—HYSTERIA

Of all people the insane are the least suggestible, and those whose mental disturbances are severe are usually absolutely unsuggestible. All hypnotists of experience agree in this. This is probably due to the fact that the diseased inhibitions or conditions of stimulation attain such an intensity in the brains of the insane, that they are no longer capable of being dissociated by means of suggestion. And if one should succeed in spite of this in hypnotizing an insane person, the majority of the curing suggestions either do not act at all, or only act transitorily; those suggestions which are directed against delusions act least of all. A lunatic, Mrs. X., for example, believed that she was Mrs. Y. I was able to hypnotize her, and succeeded in suggesting sleep, appetite, and even posthypnotic hallucinations, successfully to her. However, when I declared most energetically during the hypnosis that she knew quite well that she was Mrs. X., and not Mrs. Y., that the latter idea had only been a nonsensical delusion which she would now laugh at, she shook her head in negation persistently during the hypnotic sleep (as long as I stated this), showing me in this way that she could not accept this suggestion.

One uses the cerebrum of the hypnotized persons as an instrument when employing suggestion. This instrument is functionally deranged in the insane, and for this reason the suggestion does not take on. The failures in mental diseases are the best proofs that the power of hypnosis lies in the brain of the hypnotized, and not in the brain of the hypnotist.

So much that is untrue has been said of the relationship of hypnotism to mental disorders, and so many false doctrines are spread about, which are devoid of all thorough foundations of observation, and which are based only on unsupported statements, that it will be worth while to consider the subject some-

what more closely. I cannot emphasize sufficiently that suggestibility is an absolutely normal characteristic of the normal human brain.

As we have seen, the Charcot school, on the other hand, wishes to define hypnosis as a form of hysteria. But hysteria is a disease, and actually a disease of the mind, a functional abnormality of the disposition of the brain; it has nothing whatsoever to do with "*hysteria*"—*i.e.,* uterus. In Charcot's teaching of hysteria many errors have crept in beside the numerous correct observations; these errors are connected with the "somatic" ideas. In my opinion, which agrees with Bernheim's, the *zones* and *points hystérogenes,* the supposed pathognomonic connection of hysteria with conditions of irritation of the ovaries, typical hemianæsthesia, and the like, are all artificial things—*i.e.,* symptoms which are fixed by being called attention to, as all symptoms in the hysterical are. Hysteria is a dissociative weakness of the brain, by means of which a pathological autosuggestibility is caused. A marked tendency to more or less transitory functional disturbances of all sorts, from the most localized pain or convulsion, from the most localized anæsthesia or paralysis to the most general mental disturbance, is produced by this dissociative weakness. All these hysterical disturbances can fix themselves readily, and can persist for years. They can, it is true, even then still be cured. But certain transitions from the more transient hysterical nerve disturbances to severe and even irreparable mental disturbances and other severe neuroses also exist. Still, this more often points to combinations than to real transition forms.

Pure hysteria is mostly a constitutional malady, and is incurable as such—*i.e.,* as an abnormal characteristic of the brain. One only cures the symptoms, and not the constitutional disposition. There is, however, such a thing as acquired hysteria, which can arise from the ill-usage and exhaustion of the brain, and which merges into the confused idea of neurasthenia.[1] In the same way irritations of the peripheral nervous

[1] Everything that is possible and impossible is called by the term "neurasthenia," from general paralysis of the insane, paranoia, and melancholia down to hysteria. Hypochrondriasis is at the bottom of all this confusion of ideas, however.

system can lead to it by a reaction on the brain. I do not wish to deny this. These cases are for the most part curable. There is, further, a large number of mixtures of milder and more severe predisposition, and "nervous" (*i.e.,* cerebral) constitution with acquired damages.

I asked Dr. Babinski, one of Professor Charcot's assistants, at the Congress on Physiological Psychology, held in Paris in 1889, how he could explain that all of us who had been hypnotic pupils of Liébault and Bernheim could hypnotize from eighty to ninety per cent. of all people, no matter whether they are German, French, Swedish, Russian, Dutch, or English? Did he consider that these eighty or ninety per cent. were all hysterical. If this were so, the idea of hysteria was being extended at the Salpêtrière in such a way that I would protest against it energetically. To this I received the following reply: "We protest in the Salpêtrière that we extend the idea of hysteria too widely, but *tares hystériques,* at least, must be present if any one is hypnotizable." This controversy was, however, not included in the published account of the congress. Still, I have repeated it accurately here, because it shows how the matter lies.

According to Babinski, ninety to ninety-six per cent. of the population (I hypnotized as many as this) would therefore have *tares hystériques!* Thank God, the conditions are at all events not so bad as all that!

Dr. Babinski has not seen his way during the following twelve years to materially amend his error, for he defined the idea of hysteria in 1901 as follows:[1] "État psychique rendant le sujet qui s'y trouve capable de s'autosuggestionner. L'hystérie se manifeste principalement par des troubles primitifs et accessoirement par quelques troubles secondaires. Ce qui caractérise les premiers, c'est qu'il est possible de les reproduire par suggestion avec une exactitude rigoureuse chez certains sujets et de les faire disparaître sous l'influence exclusive de la persuasion. Ce qui caratérise les troubles secondaires c'est qu'ils sont étroitement subordonnés à des troubles primitifs."

[1] Babinski, "Définition de l'hystérie." (*Comptes rendus de la Société de Néovrologie de Paris.*)

It would have been wiser to have passed by this confused work without taking any notice of it, were it not for the fact that it reflects accurately the confusion existing in so many minds. Babinski remonstrates against the term "suggestion" because it contains something which is ominous. Then he desires to replace the word hysteria by *troubles pithiatiques* (disturbances which are curable by persuasion). In this he confounds the curing of symptoms with the curing of a constitutional psychopathy, for hysteria is this, and he continues to muddle up hysteria and suggestion. He has not yet understood the difference between normal suggestibility and the pathological hypnosis of the hysterical, even after these twelve years.

We know from the manifold phenomena of psychopathology that the conceptions in this science are for the most part only dependent on pathological strengthening, weakening, or qualitative alterations of psychological or psychophysiological ideas. Nothing is easier than to explain hysteria also as a pathologically increased suggestibility, as Moebius has done. He pointed out correctly that the symptoms in the hysterical are apt to arise from conceptions. I myself have accentuated the pathological autosuggestibility, because the majority of hysterics and the worst cases are more autosuggestible than suggestible.

Ringier[1] was right when he distinguished two relative categories of hysterical persons; the first included those who possess a very high degree of autosuggestibility, and are but little influenced by foreign suggestion, and the second included those who are more easily influenced by foreign suggestion. I shall return to these categories, which Ringier introduced on the basis of suggestive therapy, because they are reflected in other conditions.

There have always been some paradoxical practitioners who say that all women are more or less hysterical. We can deduce from this, as well as from Charcot's identification of hypnosis with a portion of the picture of hysteria, that it has always been difficult to differentiate the idea of hysteria from that of the normal condition.

[1] Ringier, "Results of Hypnotism in Country Practice." (München: Lehmann, 1891.)

But it is not easy, either, to differentiate this idea from that of severe psychoses. This is well shown by the mixed terms of "hystero-epilepsy," "hysterical madness," "hysterical mania," etc. However, Charcot, Breuer, Freund, Vogt, and also several authors who have reported single cases, have proved that apparently severe phenomena, which are extremely like severe neuroses, epilepsy, or severe psychoses, can be produced by conceptions, and can be again removed by conceptions. I myself have observed a number of striking cases of this kind. Such cases may even last for years, or almost for a lifetime, and yet finally be cured, as if it were by a miracle. I have seen such a case of severe paraplegia in Wetterstrand's practice.

Still, we must not allow ourselves to be blinded by appearances. These cases belong really to true hysteria, whether they affect men or women. But it is quite different in the case of the true mixed forms. These belong chiefly to Ringier's first-mentioned category. If we study such individuals carefully, we find that they harbor in themselves elements of severe constitutional psychopathic anomalies or psychoses, such as ethical defects, erethic conditions of mood, irritable weakness, rudiments or elements of ideas of exaltation or delusions of persecution with partial lucidity which take up a position halfway toward psychoses, impulsion, abnormalities of the sexual sphere, morbid amorousness, pathological giddiness, constitutional quarrelsomeness or melancholia, hypochondriasis, etc. In brief, we are floating from the region of hysteria into that of other constitutional psychopathic conditions, or maybe we are already in it before we know what has happened. The phenomenon of pathological autosuggestibility is undoubtedly more deeply pathological than that of pathological suggestibility. But one cannot draw a definite line of demarcation. Not only can other psychopathical persons show exquisitely hysterical phenomena, but if we fix our attention on the latter of Ringier's categories, we find that these people, if they are markedly hysterical and are not to be considered normal, really belong to the constitutional psychopaths, even if it be to the relatively milder ones.

We have built up a transition series from the severe psycho-

pathical conditions to relatively pure hysteria, and thence to the normal condition, by means of these cases.

However, lines and planes are not to be found in this subject. Many constitutional psychoses show transitions to the normal condition which do not reveal anything hysterical at all in them.

But more than that. As is well known, a formerly healthy person may acquire an hysteria. Attempts have been made to deny this, but not with justification. Just as the cardinal symptoms of paranoia, or of melancholia, or perverse sexual appetite, etc., exist both constitutionally as disorders of the character and acquiredly as acute or chronic psychoses, so is this the case with the symptoms of hysteria, and even with the disposition toward hysteria. I have experienced several exquisitely acquired cases of perverse sexual appetite, which have been produced by autosuggestion, occurring in highly ethical and educated persons. Some of these I have been able to cure by suggestion.

One meets at times with acute curable hysteria, following severe emotions (psychical traumata) or wasting illnesses, and also arising without any ascertainable cause, and the patients in these cases have not shown a trace of such phenomena previously. One is apt to regard these cases under the new-fashioned term of "neurasthenia." However, perfectly pure cases of this kind are rare. As a rule, one deals with an acquired pathological hysterical reaction of a person who is at least constitutionally predisposed in these cases, and this can usually be proved by following up the anamnesis carefully. The actual neurasthenias do not fare any better (by this one means hypochrondriasis, other psychopathical conditions and the like, provided that they are not cases of early general paralysis of the insane). Even these are only rarely the results of mental overwork, but are mostly the results of hereditary predisposition, associated with psychical traumata or exhaustions, and the like. In this way, Beard's "new discovery" resolves itself into a new naming of long-recognized clinical pictures chiefly.

If I might be allowed to draw conclusions from this résumé,

which I fear has already become too long, I should choose the following:

1. Hysteria is not a completely circumscribed clinical picture, but is a pathological symptom complex or syndrome.

2. This symptom complex may be constitutional or, more rarely, acquired; both factors are not infrequently combined.

3. This symptom complex is characterized especially by a pathological dissociability (suggestibility and autosuggestibility) in which the autosuggestibility preponderates in the severer and more markedly constitutional cases. It is combined under numerous conditions with other phenomena of constitutional psychopathic conditions.

Pathological dissociability corresponds to a condition of the brain in which conceptions, impulses of the will and emotions are especially easily and intensively dissociated. In consequence, spontaneous somnambulic chains, which act intensely, are formed in the contracted consciousness. These chains can carry the personality with them, and may, under certain conditions, divide it into a double "ego"; it then is able to mature some very extraordinary phenomena. The dramatic hysterical deceptions and dreamlike instability, generally speaking, of such patients come under this heading.

The pathological suggestibility and autosuggestibility manifest themselves by the production of manifold functional disturbances of the whole nervous system: psychopetal, psychofugal, and psychocentral, through the intermediation of conceptions. These disturbances can produce material changes in the cells, which are easily visible, but which are by no means of more importance than others on this account. It is undoubtedly true that molecular changes of living nerve elements correspond to every function and disturbance of function of the nervous system (Hodge and others). One must regard peripheral hysterical nerve disturbances and changes as products of pathological hysterical suggestions and autosuggestions (anæsthesia, paralysis, contracture, contraction of the field of vision, hæmorrhage of the mucous membrane, etc.).

If the definition of hysteria as I have given it be accepted, the gradual limitation in all directions, even in the direction of

normal suggestibility, becomes self-evident. The difference between hysteria and normal suggestibility may be compared with the difference between melancholia and normal sadness, or between "moral" insanity and normal egotism, or between pathological swindling and normal willful cheating, or also between normal and hypochondriacal sensation of pain.

Very marked suggestibility is already hypernormal, and may at times be accompanied by hysterical predisposition. Still, that which distinguishes hysteria more especially is the pathological reaction, the decking out of the suggestions given with unintentional autosuggestions, and the wholesale production of paralyses, convulsions, pains, etc., which have not been suggested.

Uncorrected hypnosis of the hysterical is quite a different thing to hypnosis of the normal person. Dr. Babinski does not take this fact into consideration. The former overshoots the mark, tends to the production of lethargy or hysterical attack, does not obey the suggestions, or exaggerates them, and must be guided with especial caution, circumspection, and skill; it must, in fact, be normalized.

Hysterical dissociability plays an important part, socially and historically as well as therapeutically. It is especially this which transforms a personality, be it for good or for bad. When the hysteria occurs in a gifted person he not infrequently becomes a convert, a leader of the mob, a prophet, or the like. But one must not suppose that all enthusiasts and fanatics exhibit hysterical phenomena. One meets with these phenomena in those cases in which striking transformations of the whole personality, caused by suggestion, take place. However, this may also be due to actual psychoses (*e.g., paranoia*). In this case a degeneration of the "ego" takes place, which is not the case in hysteria.

Meynert said that hypnosis is "an experimentally produced idiocy." If he had said "insanity" his statement would have been more plausible. His views, which are deduced, and which have been thrust upon us without any knowledge of the matter, are obviously based on the fact that one can produce many phenomena (hallucinations, false beliefs, deceptions of

memory, and the like) in the hypnotized which are also to be observed in the insane. A casual observer can be easily led astray by these analogies, if he has had no experience of suggestion, but has only gained experience of the insane. The following points are obviously forgotten in connection with this:

1. All these apparent symptoms of mental disturbance occur also in normal sleep, albeit that they are for the most part less well developed (see p. 75). And sleep is certainly not a mental disease.

2. The induced symptoms in hypnotized persons do not exhibit any tendency toward being spontaneously repeated in the waking condition, provided that the operator understands his subject, and does not intentionally endeavor to cultivate and fix the disturbing symptoms by means of suggestions. This brings me to a very important question. Liébeault, Bernheim, Wetterstrand, van Eeden, van Renterghem, de Jong, Vogt, Ringier, Delius, I myself, and the other pupils of the Nancy school, declare emphatically that we have never met with a single case of serious or lasting damage to the mental or bodily health produced by hypnosis, but have observed very many cures and improvements in illnesses in persons whom we have treated. And it must be pointed out that we have had the experience of many thousand cases of hypnotized persons. Autosuggestions and hysterical attacks, transitory mild dizziness in the head, and the like, as well as the occurrence of autohypnosis on a few occasions during our early attempts and while we were still wanting in practice, were the only indications of "damage" which have been observed. The matter cannot be dismissed by ambiguous forms of speech, in view of such evidence. Either we are all miserable liars, or the supposititious damage of hypnosis must depend partly on the application of faulty methods, partly on the stupidity of unskilled operators, partly on frivolous experiments, but chiefly on misconceptions and exaggerations. We hold this view. I had the opportunity of witnessing a hypnosis of fright according to the Salpêtrière method in Paris in 1889. An assistant advanced toward an hysterical girl. She realized his intention,

cried out, and fled into every corner, with the expression of disgust and great fear. In spite of this she was captured, and, heedless of her despairing struggles, was held fast. The assistant then pressed with all his strength on some point or other (shoulder or leg) which is supposed to be a *zone hypnogène*. The patient was hypnotized suddenly in a cataleptic position in this manner. They did not even take the trouble to quiet her by means of suggestions. We certainly must state that one can do damage in this way, and even without having recourse to such brutal behavior, one may do damage if the patient is frightened instead of being reassured.

Mental disease is not characterized by the psychological form of a symptom or of a symptom complex, but by a disease of the brain itself. The cause of the disease (apart from general paralysis of the insane and other so-called organic psychoses, as well as those which depend on intoxications) is obscure, but nevertheless is undoubtedly concealed behind the psychical contents of the symptoms. It is not the phenomenon of the hallucination which is in itself morbid,[1] but it is the concealed pathological irritation which produces the continued repetition of certain hallucinations. A rapid jabbering of fleeting ideas is not in itself morbid, for every one may exhibit the phenomena of a brief flight of ideas during the moment of adequate incitation or excitability. But the cause, which is still unknown, of the pathological storm of irritation which boils in the brain of the maniac, and which produces, besides, the general psychomotor excitement, euphoria, etc., is morbid. The contents of delusions are not in themselves morbid, for every normal person can think or dream nonsense. But the incapability of correcting the delusions logically, and the impulse by means of which they keep on recurring, is the morbid thing. Both are

[1] One need not construct one's mind, one's whole edifice of conception, on an hallucinatory foundation for this reason (Janet, Dessoir). Without wishing to dispute the sharpness and depth of such views, I may be permitted to state that in the philogenetic development of the engrams the capability of primary differentiation between impressions of memory conjured up (ecphorized) and actual perception of reality forms a biological postulate of the self-preservation of the individual and of the kind. The animal must be able to distinguish the renewed complex of stimuli coming from without from the ecphorized engram complex of former stimuli which lies latent in the brain (internal conceptions) in order to find his way about in the outer world.

obviously based on peculiar conditions or irritation and disturbances of coördination in the process of thinking; these are perhaps localized in a definite manner, and, at all events, are combined in a more or less regular manner in every so-called form of disease, and so on.

The doctrine of suggestion throws light on psychology in this way, and offers important hints to it, which are partly confirmations of views that clear-minded psychiatric observers have held for a long time. It is of particular importance for the doctrine of hallucinations. It has led to the discovery of negative hallucinations in the insane, and proves clearly to us that the hallucination is not the morbid symptom in itself, but becomes this through its pathological cause.

It is indisputable that certain forms of insanity of a mild or little generalized type can be occasionally improved or even cured by suggestion, if the patient possesses a very suggestible brain, and if the operator is very skillful. Wetterstrand has even cured several cases of epilepsy solely by suggestion;[1] he has also done the same in mild melancholia and hypochondriasis. Professor von Speyr, of Berne, and others, including myself, have observed a few surprisingly favorable results of this treatment. The chief difficulty lies in the inattention and inaccessibleness of the patient, and in the intensity of the pathological stimuli and inclinations. The difference between the insane and normal hypnotized persons if recognized only too markedly even when the type of symptoms appears to be the same. I have often compared the waxlike flexibility of the katatonic patient with suggestive catalepsy: in the one case one has the meaningless stare and the inaccessibility for all suggestions, and in the other one has automatic obedience. The two are absolutely different. In the former there is in all probability pathological œdema of the brain, and in the latter only a transient functional anæmia of the brain (see O. Vogt, p. 147).

I have said, " The brain of the hypnotized person is our curing apparatus with which we work, I might almost say our

[1] I have always been doubtful whether he was not really dealing partly with gross forms of hysteria.

dynamo machine. If the machine gets out of order, it becomes difficult or impossible to work with it."

This requires a certain amount of explanation. Firstly, it is self-evident that a living machine is not a machine in the ordinary sense of the term. The living organism is a self-developing and self-supporting machine, which works automatically. It seeks the conditions of its movements (motor) in the shape of food and water for itself, and it can, besides, adapt itself. Next, it goes through a progressive evolution of life. However, if we allow for all these differences, the comparison may be of use as a comparison by analogy.

The more I hypnotize, the more clearly do I learn to recognize the reasons of failure in healthy minded persons. First of all there are the emotions, such as inward excitement, anger, exaggerated lively exaltation, fear, mistrust, sadness and despair, etc., which limit the result, or may actually destroy it entirely, even in very suggestible people who have often been hypnotized. As soon as I notice that a person remains uninfluenced or does not obey well any longer, I ask him, "What is it that is exciting you? Why don't you tell me what you have got on your mind?" And this question, asked in a friendly but definite tone, rarely fails to elicit a positive reply. The patient notices that I have recognized the cause of the failure at once, and almost always confesses it. I can generally reassure him thereby, and, in consequence, attain what I am aiming at.

But it is not only emotions which disturb. Every other brain activity as well, which holds the attention in a condition of tension, disturbs hypnosis, sometimes to a greater and sometimes to a less, extent—preoccupation, awakening of the interest, reasoning, impulses, etc.

All these brain activities act as antagonists to suggestion. But the worst of all for the suggestion is when a definite antagonist (emotion, conception, impulse of will, or a mixture of these activities) regularly counteracts the suggestion against the conscious will of the hypnotized person. This is the disturbing autosuggestion which not infrequently wins the day, in spite of all the endeavors of the hypnotist and of the best

intentions of the hypnotized. One is much more likely to gain the upper hand over several autosuggestions (by means of the *divide et impera*) than over one of them alone.

One observes a variety of things on carrying out hypnotic experiments in the insane. In acute psychoses emotions oppose us, and the power and duration of these stifle everything else. I have often attempted to hypnotize away simple homesickness in the healthy. This only succeeds with difficulty, and sometimes fails. Even in this case the emotional wave, and the conception associated with it, form an almost insurmountable antagonist. The hypnosis may succeed, and even other troubles (pain and the like) may be banished successfully, but it attacks the impulse of homesickness unsuccessfully. How much more markedly is this the case in the psychoses!

As I have already said, one can certainly overcome the initial onset and the early stage of a psychosis by suggestion in certain cases. But if a melancholia, a mania, or a delusional insanity has broken out, one will only rarely be able to tranquilize the patient for the time being. The antagonist in the brain, no matter of what nature it be, is much too powerful. (For further details, see my histories of cases, given later.)

We find that other forms of psychoses, especially those forms with prominent delusions, also act as powerful antagonists, toward which suggestion is helpless. The attempt even to hypnotize a patient suffering from delusions of persecution or delusions of exaltation mostly proves itself to be futile, and may even be a harmful experiment. This patient regards everything with the utmost suspicion which aims at influencing his person in any way. The former suffers from delusions of encroachment, as it were, and applies the most innocent things to himself. Since the invention of the telephone, those suffering from delusions of persecution frequently imagine that they are harassed by secret telephones (air telephones and the like). As hypnotism is discussed everywhere, one often finds the most marked hypnotic delusions of persecution in such patients. They fancy that they are being secretly hypnotized, or that they are being persecuted hypnotically by enemies, and so on. Telepathic and spiritualistic theories form excellent food for

this kind of delusion system. One can now understand how foolish it is to wish to hypnotize such patients. One only supplies them with material for delusions, which are at once directed against those hypnotizing. I have only done this once or twice at first, *experimenti causa,* found my belief that it must be as I have described confirmed, and have then let the matter drop. The patients with delusions of exaltation despise the hypnotist inordinately, and only become excited by the attempt.

Patients suffering from organic psychoses depending on atrophy of the brain cannot, as a rule, grasp a suggestion. The destructive brain process is generalized in such a way that one cannot even obtain those partial results which one often obtains in apoplectic paralysis. The brain tissue of the apoplectic patient is still relatively healthy apart from the affected area. The tissue of a brain in the condition of senile or general paralysis is diseased through and through.

The results in inherited and constitutional psychoses, in psychopathy, hysteria, etc., are very materially better, provided that well-marked idiocy is excluded. But the cerebral lesion and the morbid disposition naturally cannot be removed. Still, one can obtain much that is for the good of the patient—at all events, in a number of cases—by means of a correct suggestive pedagogic treatment, by introducing the habit of good and healthy activities, by stimulating the healthy traits of character, and by suggesting abhorrence and disgust for morbid and perverse impulses. For this purpose, it is true, the individual concerned must be reasonably suggestible, and must possess some good qualities, which is often the case. The brain in these cases is neither affected by delusions nor continually under the influence of emotions; the dynamic conditions of suggestibility are therefore present.

The same applies to the intoxication psychoses (after the delirium has passed off), in which one can achieve a cure for the rest of life by suggestion of a dislike of the narcotic and of total abstinence from the drug. One cannot arrive at a curative action in its full sense in certain cases of secondary psychoses which have run their course, but one attains important

impulses toward useful activities—*e.g.*, toward work, etc.—and also inhibition of perverse habits, in place of this. However, these cases are rare, and owe their existence to the cessation of the emotions and of the delusions, together with a partial preservation of the intelligence. Thus, they only help to confirm my view. The majority of persons suffering from secondary insanity are too demented and too confused, and harbor too many delusions, to admit of suggestive influence.

At first sight it appears less easy to explain that certain insane patients can be easily hypnotized, that one can influence them freely as far as pain, appetite, motion of the bowels, menstruation, sleep, and the like, are concerned, although the mental disturbance, the morbid delusions, and emotions, continue to exist unchanged and unshortened. One sometimes observes if one hypnotizes hysterical persons without having determined on a plan of procedure, without a programme, that the patient lapses into a deep lethargic sleep; I have seen this in four patients. In two of these patients, one of which was an hystero-epileptic male and the other an hysterical girl, this deep sleep set in with such lightning rapidity that I failed completely to remain in psychical connection with them. None of the means at my disposal sufficed to make them suggestively obedient. I only succeeded in awakening them from their sleep with great difficulty, although I had found it easy to put them to sleep. They were completely anæsthetic, and the man showed complete relaxation of all muscles, while the girl was cataleptic. In the third case, that of an epileptic boy, the deep sleep also set in suddenly. However, it was always possible, albeit with great difficulty, to obtain some weak actions of suggestion by loud shouting and energetic stirring up. The fourth case was one of melancholic psychopathic disturbance, which became circular later on. This patient lost the "rapport" during the deep lethargic sleep which followed the hypnotizing by a colleague of mine. In this case I was able soon to replace the "rapport" completely after a little practice, and to achieve somnambulic obedience.

I was consulted in an interesting case by my colleague, Dr. Boesch. The patient was an hysterical girl who had lapsed

into a spontaneous catalepsy. The extremities were cold and cyanotic, the look was glassy, and the skin was anæsthetic during the ecstatic sleep, with dreamlike hallucinations. I attempted in vain to establish a suggestive "rapport." But certain signs seemed to me to indicate that this was not quite impossible. Boesch attempted, on my advice, to influence the girl after she had awakened from the sleep, which lasted for several hours each day, by means of suggestion during waking. He succeeded in this in so far that he achieved suggestive obedience to a great extent—at first during the waking condition, and, as a result, even in the spontaneous cataleptic sleep. Unfortunately, this influence was lost later on, before it had resulted in a complete cure.

CHAPTER VI

HINTS TO THE PRACTITIONER ON SUGGESTIVE TREATMENT AND PSYCHOTHERAPEUTICS

If one wishes to hypnotize, and especially to obtain therapeutic results by this means, one must first arm one's self with great patience, with enthusiasm, with consistency, with an unhesitating manner, and with the capability of inventing tricks and of originating ideas. Next, one must learn to observe psychologically correctly, and to individualize. Lastly, the determination of the actual diagnosis is necessary, as it is in every other form of treatment. But suggestion itself often offers such an excellent diagnostic means that one is thoroughly justified in applying it for this purpose frequently. The diagnosis of a doubtful case can ofttimes be made from the success or failure of the hypnotic suggestion.

As the foregoing implies, not every medical practitioner is suitable to become a hypnotist. It is true that the personal magnetic fluid, which used to be considered necessary, is a superfluous myth, but every one does not possess the characteristics and capabilities mentioned above. By far the most potent factor which stands in the way of success is the want of interest and of personal initiative. In this way, if it is not constantly being spurred again into life, one's own mental activity slowly becomes dormant as a result of the unavoidable frictions of everyday life. In this the *vis inertia,* which adheres so tenaciously to the larger portion of the populace, plays a determining rôle. The man who attempts to hypnotize in an automatic sort of way, following out a preconceived scheme, will rapidly fail to have results to record as soon as the fascination of the novelty of the thing has passed off, especially if he does not take any intelligent trouble over it. He

will go to sleep himself more and more, and his patients will be influenced less and less.

A second factor which prevents success is mistrust, nervousness, fear that others will laugh at him, fear that the hypnotized person will simulate, and misgivings and doubts of all kinds. This second factor, which at first is the most formidable, disappears as soon as one gains experience, and then the first factor makes itself felt to the full extent, and must continuously be combated. One can frequently notice, when one is depressed or tired, that one achieves fewer results, for this weakness of the hypnotist is unconsciously recognized by the brain dynamisms of the hypnotized.

One should approach the person to be hypnotized, as Bernheim advises, quite naturally and intent on one's purpose; one explains to him that there is nothing unnatural or uncanny about the procedure, but that it is a characteristic of the nervous system which applies to everybody; one says that he will readily be influenced or fall to sleep. One should avoid long speeches and explanations, and the patient or subject is placed in a comfortable easy-chair. It is best if the chair has no arms, or, failing this, if the arms are well upholstered. The chair is so placed that one side is touching a perpendicular wall, so that one can assist a suggestive catalepsy of the arm, of which one is not quite certain, by leaning the arm against the wall.

One should enjoy the trust and inclination of the person to be hypnotized as far as is possible, or attempt to gain these.

O. Vogt (see Chapter IV) states that he accustoms his patients to the "rapport" consistently by very brief repeated hypnoses, after which he makes them relate their sensations exactly. In this way he strangles unpleasant autosuggestions in the bud, and at the same time joins his following suggestions to the innocent suggestive results. He avoids, above all things, giving suggestions in such a way that the patient does not realize them at once, or, at all events, soon, and thus prevents, as I do also, awakening or strengthening the idea "that it does not succeed with him." At first he only hints at the occurrence of some phenomenon or other, and only suggests this more forcibly after he has noticed the beginnings of the occurrence him-

self, or learns of it by the statements of the patient. He avoids a commanding tone of voice, so that those who do not want to lose the "freedom of will" shall not be disturbed. The phenomena of suggestion should be represented, especially to educated persons, as arising quite naturally out of themselves. I entirely approve of this method, and had already employed it, although not quite so consistently.

One should further avoid that the person to be hypnotized is mentally stimulated or excited, or that he is anxious or in a condition of expectant tension. The last-named spoils the first hypnosis in a large number of people, and especially in the educated, who imagine all sorts of wonderful things, and expect them to take place. Some persons are afraid that they cannot be hypnotized, and, in consequence, give themselves this auto-suggestion, which is frequently extremely difficult to overcome. In this case patience and various tricks must be employed. The first attempt under these conditions frequently fails. One then explains to the person that he was too excited for the moment, that he was taking too keen an interest in the procedure, but that he was already influenced. Sleep was by no means necessary for the action to be attained, and it would come later of its own account. One then speaks only of light dozing, etc. Once, after I had exhausted all my tricks in this way without result with a lady, I appointed another time for her to come to see me, allowed her to get up, and put on her hat, coat, and gloves, and then I got up too, and said to her, apparently without any ulterior motive, "Sit down again for a moment"; and, with a few rapid and definite suggestions, she was hypnotized in a few seconds.

In many cases of this kind the hypnotizing of another person in the presence of the person to be hypnotized acts advantageously. The intention of this, however, must not be noticed, or else the action will be lost.

I wish, on the whole to recommend the method according to Liébeault-Wetterstrand, which I shall describe presently—the collective hypnotizing.

According to Bernheim's procedure, one requests the patient to sit in the armchair, tells him to look straight into one's eyes

for a few seconds, but not longer than one minute, and declares to him loudly and firmly, but in a monotonous tone of voice, that he is going on famously, that his eyes are already moist, his eyelids are heavy, and that he feels a pleasant sensation of warmth in his legs and arms. Then one tells him to look at the thumb and index finger of the hypnotist's left hand, which one depresses unnoticeably, so that the lids follow. If the eyelids fall to of their own account soon, one has gained one's end. If not, one says, " Close your eyes." Some practitioners let the patient look at them for a longer time.

One can then continue by following Vogt's procedure, or one can also lift up an arm, and lean it against the wall or against the patient's head, declaring that it is rigid. It is best to state at once that the hand of the raised arm will be absolutely irresistibly drawn against the head, as if the latter were a magnet. Should this not succeed, one must help a little; one becomes very definite and intent in suggesting; one suggests at the same time disappearance of thought, obedience of the nerves, feeling well, rest, and slumber. As soon as one notices that one or the other of these suggestions is beginning to work, one must use it and lay emphasis on it, and at times it will be well to require the patient to indicate his own experience by movements of the head. Every suggestion which elicits the reply " Yes " in the early stages is an important achievement, and one must use it for all the following suggestions: " You see, it is working very well. Your slumber is getting sounder. Your arm gets more and more rigid. You cannot depress it now." The patient tries to do so, with some result; one then quickly prevents him from doing this, and states: " On the contrary, if you try to bring it down, it only moves toward your head. Look here, I attract it toward your head," etc. It is wise to avoid the suggestion of catalepsy of the arm at first in very critical and refractory people. After some practice, one soon can recognize when it is safe to risk this.

I regard it as a mistake to make the patient fix his eyes on an object for long, as a rule. I rarely do this for more than one minute, and then only at the beginning of the first sitting. Later on, it suffices always to look at the person to be hypno-

tized for one or two seconds at the most, and to give the suggestion of sleep at the same time. As a rule, I simply declare, "You are asleep," making a movement of my hand in front of the patient's eyes, and the subject is immediately hypnotized.

Grossmann[1] details his method of hypnotizing as follows:

"First of all, I suggest suggestibility to every patient. I find it best to deal with the skeptic with the following little experiment: I say to him that I am going to press on his conjunctiva with my finger, although he will scarcely believe it, without producing any reflex closure of the lids—that is, without his blinking. The experiment nearly always succeeds, for, as I have pointed out in a previous work,[2] the conjunctiva of almost every person becomes anæsthetic by fixing at the same time the attention on this sort of suggestion. The fact that the suggestion has succeeded frequently increases the suggestibility to such an extent that the command to sleep, simply following at once on this, suffices to cause hypnosis to appear forthwith. In other cases I get the patient to sit on a chair, without leaning back, or, still better, to rest on a sofa in a half-sitting, half-lying position, and to fix me intently with his eyes for a few seconds. I then suggest to him that he feels a sensation of warmth traversing his limbs, and especially that his arms, which are resting on his knees, are becoming as heavy as lead. Having said this, I raise them a little, catching hold of them by the wrists, and cause them to fall suddenly by a slight push of my hands. They fall back on the knees apparently as heavy as lead, and the patient actually feels a marked tiredness in his arms; this I have had confirmed by nearly every one. If I do not observe the somewhat dazed expression, or traces of it, which may only last for a few seconds, I then employ the principal trick. I ask the patient to close his eyes, or I close them myself quickly; then I seize his wrists, the forearms being flexed upward, and suggest that he is becoming so tired that he can no longer keep up, but must sink back. I gradually press him backward myself by imperceptible pushes, until his

[1] Grossmann, *Zeitschrift für Hypnotismus*, vol. i., 1892–1893, p. 410.

[2] *Ibid.*, "The Results of the Suggestion Treatment in Influenza." (Berlin: H. Brieger, 1892.)

head is resting on the back of the chair, and, provided that it is still necessary, give the command to sleep.

It is best to touch the painful part (head, abdomen, etc.) with the right hand, and to declare at the same time that the pains are disappearing; one then asks the patient during the hypnosis about the result, and, if possible, one does not leave off until this is complete—at all events, for the moment. One often has to use several different suggestions, and should possess talent for invention. Everything succeeds at once with persons who are very suggestible, while one has much difficulty with others.

One must first see that one induces anæsthesia and amnesia after awakening as rapidly as possible. It is true that many cure suggestions succeed without these two results. But one can attain one's aim more rapidly and better, on the average, with them. One usually prevents the patient from carrying over the thread of his conscious logic from the hypnosis to the waking condition, and the reverse, by means of amnesia.

An important duty of the hypnotist is, further, to prevent the harmful results of autosuggestions. Persons who are anxious and nervous, and more especially hysterical persons, are apt to imagine autosuggestions of harmful actions as a result of the first hypnosis. This is particularly likely if they have learned a lot of this kind of thing from newspapers or from other people. They become giddy after the hypnosis, or they feel themselves dazed, or they have a feeling of fear, or headache, trembling, or twitchings appear, which may even increase into convulsions. One must take great care to avoid showing anxiety or concern should such a condition appear, lest one increases and cultivates the autosuggestion thereby. On the other hand, one must state with the utmost firmness and confidence that these things are only stupid little events, which occasionally turn up during the first hypnosis, but which can be removed at once, and which will never again recur. And while one is saying this, one suggests away these phenomena, down to the smallest detail, by means of an immediate renewal of the hypnosis. One must not allow any part of it to remain, and should always remember that everything which is produced

by suggestion can also be removed by suggestion, if this is done in time, and if it is not allowed to be retained by autosuggestion or habit. Hypnosis should only be employed for short periods and not frequently for such persons, or for hysterical individuals generally, and only therapeutic suggestions should then be given.

I lay great stress on this procedure. I am absolutely convinced that want of knowledge of this or ignoring it is responsible for the unintentional damages ascribed to hypnosis of which we read in the literature on the subject. I have personally seen a case of trembling and pain in an arm which was produced by this sort of unskillful hypnotizing on the part of an inexperienced young man; it lasted for a few months, but was then completely removed again by suggestion.

In my experience, one achieves more, as a rule, with hysterics by skillfully applied suggestions during waking than one does by means of formal (announced) hypnosis. The old rule remains the same: kind, consistent, and firm. One must gain the sympathy of the hysterical person, and at the same time require respect from him. One must never scoff at him, or show him any mistrust, repulsion, or contempt, or else one will damage him considerably. But one must be just as careful not to spoil him, and not to attach much importance to his attacks, pains, etc. One speaks confidently of cure, insists that he will obey implicitly, and then one guides him imperceptibly, by tickling his ambition, etc., into an occupied mode of living, and into healthy hygienic habits by giving him therapeutic hygienic suggestions whenever one comes into contact with him. One should employ medicaments as seldom as possible, and never have recourse to narcotics. I wish to deduce the maxim from all these facts that medical practitioners who are still inexperienced in dealing with suggestions, and especially young practitioners who so far have had but little general experience, should avoid attempting their first hypnotic experiments on hysterical persons.

That one can do harm by suggestion, if one wishes to, is obvious, and is only the reverse of the curative action of suggestion. One can suggest headache, disturbances of menstruation, etc.,

just as well as one can suggest them away. But if one wishes only to do good, one must never speak to a hypnotized person of the possibility of doing harm, and, on the contrary, always state firmly and unconditionally that suggestion can only act for good. In this way one removes the harmful autosuggestions in the best manner, and preserves a healthy suggestive atmosphere around the patient.

One must avoid the "occurrence of self-hypnosis," the supposed "weakening of the will-power," and other things of this kind, by the same means of counter-suggestion. The danger of these things are always being held up as arguments against therapeutic hypnotism. Only on one occasion, while I was still a beginner, did a person whom I had hypnotized fall into a hypnotic sleep of his own account. He received such an energetic suggestive lecture from me in return that the affair was not repeated. If one admits the right of existence of such phenomena in one's environments, they will soon be repeated, not only in the same patient (as, for example, in the hypnotized hysterical girl of von Krafft-Ebbing), but also in others. This can be seen in Dr. Friedrich's results,[1] who hypnotized by false methods and with preconceived notions. But, on the other hand, a self-hypnosis suggested by means of an amulet is not dangerous. However, one must limit the duration of this to a few minutes by means of suggestion, and only allow it to take place through the intermediation of the amulet and for definite treatment purposes, with the permission of the doctor.

One must always suggest perfect health, cheerful mood, good sleep, good appetite, and strengthening of the will. Besides this, one should always bear in mind Bernheim's and Liébeault's rules:

1. To insist on having at least one suitable witness for every hypnotizing, as a protection for the hypnotist as well as for the person hypnotized.[2]

[1] Doctor Friedrich, "Annals of the General Hospital in the Town of München," 1894. The article of Doctor Friedrich, which is directed against the therapeutic application of hypnotism, proves conclusively that the author has fallen into all the errors which one should avoid, and that he has completely misunderstood the whole question.

[2] Special exceptions in which absolute mutual trust can be relied on may take place under especial conditions.

2. To give the suggestion to all very suggestible persons (somnambulists) that no one else can hypnotize them.

3. Not to hypnotize any one without first obtaining his spoken permission.

4. Only to give suggestions for therapeutic purposes, as long as legal, scientific, or didactic purposes do not enter into the question.

I have called attention to many baneful suggestions which are exercised unconsciously by medical practitioners by their expressions of face, by their examinations and prognoses.[1] Bernheim has also done the same. I am fully aware that I once suggested a gastric ulcer to a patient in whom I suspected this condition by having a serious countenance, and by carefully palpating the region of the stomach, and ordering rest in bed and milk diet. I suggested the site of the pain by means of a pointed question, and the result of my want of knowledge of suggestion at the time was that the patient was confined to her bed for many months of a suggested illness which was not really present. The patient proved herself later on to be an excellent somnambulist. Hysterical cough, hysterical attacks, diseases of the stomach, uterine disturbances, constipation, and nervous disorders of all kinds are frequently suggested in this manner by anxious practitioners, who are apt to take serious views of cases, or are autosuggested by the patients themselves. There is no doubt as to the truth of this.

That one can suggest hysterical attacks, for example, even without using words, by means of unskillful manipulations has long been recognized. We have all reported this, and it has been confirmed by Dr. Friedrich in a striking manner. But when one understands suggestion, one gets accustomed, not to produce it, but to remove it.

On one occasion a hystero-epileptic woman was brought to me with the history of several severe attacks daily during the past seven years, and of total incapability for work. I was called to her during the first attack in the asylum, hypnotized the patient during the attack, and declared that the attacks

[1] Forel, "Unconscious Suggestion." (*American Journal of Psychology*, vol. iv., No. 4, 1893.)

had definitely ceased from that time, and that the disease was cured. No further attack took place, and after a few weeks the patient left the asylum. For two and a half years she remained perfectly well. She then again complained of some hysterical symptoms, and consulted a doctor. The latter told her during the treatment that the attacks would certainly recur, and the attacks did recur. She then begged to be admitted into the asylum again, and arrived in 1894. I again removed the attacks at once by means of a few hypnoses; she was discharged cured, and has remained well since. Comments on this case are superfluous.

Dr. Weil, of Berlin,[1] has written an excellent little article on the suggestive action of "prognosis." Of course, a bad prognosis, which some practitioners give to the poor patients without consideration, is frequently tantamount to producing a further illness; not infrequently it hastens the death of the patient.

Weil reminds us with perfect justification that the patient who says to his medical attendant, "Doctor, I want to know the whole truth; I am prepared for anything; tell me what I have to expect," etc., really deceives himself, and, at all events, usually only wishes to hear a comforting lie from the doctor. The medical practitioner must be a psychologist in this case, and his duty, as a rule, is to conceal his conviction, and even to lie at times.[2] But, besides, every practitioner should realize how far he is from being infallible, and this should help him to allow the patient to retain hope without lying. There exist certain exceptions under definite circumstances, and with very strong-minded characters, which it is the duty of the psychologist to find out.

One must always study the individual suggestibility of one's hypnotized persons closely, adapt one's self to this, and not proceed in accordance with fixed rules.

If one wishes to employ suggestive anæsthesia for surgical purposes, one must first prepare the patient by a few hypnotizings. When he does not feel pricks of the needle in the palm of

[1] Weil, *Zeitschrift für Hypnotismus*, vol, i., 1892–1893, p. 395.

[2] Compare Mark Twain "On the Decay in the Art of Lying. Selected Sketches:" "The liar who is most to be pitied is the one who persuades himself that he always speaks the truth, for he lies to himself as well as to others."

the hand, or even touching of the cornea, he is ready for the operation; but one must avoid exciting him by extensive preparations for the operation, for one will thus risk completely desuggesting him. I have often seen this. One should hypnotize him beforehand, and represent the operation as a mere nothing or as a joke, and then one should allow it to take him by surprise as far as is possible. During the operation one must continuously go on suggesting anæsthesia and deadness of the affected part.

If the suggestion fails in a person, one should desist after four or five sittings. It sometimes succeeds later, or if another hypnotist tries.

One must not continue to hypnotize a person *ad infinitum* mechanically; one only loses and does not gain anything. One should attempt to attain the maximum effect rapidly in a few sittings. One must then reduce the number of hypnotizings gradually, which at first were carried out every day, and then leave off, having represented the result which one has gained as definite and lasting. There are, however, some obstinate cases, accompanied by a small degree of suggestibility, in which one succeeds after a long time, if one perseveres. Still, everything has its limits. If the patient fails to see any further result, he will often become desuggested, and one loses one's influence instead of increasing it. The hypnotist and the hypnotized become tired out. One must always try to find something new, and to bring this to pass until one has achieved one's aim, and then gradually to break off.

The hypnotized often become desuggestionized by autosuggestions, as well as by insinuation of other people or writings which find fault with hypnotism. They frequently become so because the hypnotist himself loses courage and ardor. However, one can usually regain what one has lost by means of a little energy and trouble. It will be found not infrequently that the results are better if one interrupts the sittings for a good long time.

Hypnotism may be applied therapeutically, as Bernheim has rightly pointed out, not only by itself, but also in conjunction with other remedies. Many of these latter can be employed

as auxiliary means to suggestion, or directly as the suggestion itself. It is certain that a large number of medicaments from time immemorial have acted solely and only by suggestion. Homœopathy is a speaking instance of this, and electrotherapy is almost as striking an example.

Many a pain which will not budge in response to simple suggestion can be removed by *aqua colorata* or *mica panis*. Bernheim, Moebius, and Wetterstrand have proved most brilliantly that the so-called metallo-therapeutics and a large proportion of electricity only act by suggestion.

I have repeatedly emphasized, and Bernheim has done the same, that suggestion is not a panacea which cures all ills. If one expects everything of it, one will be disappointed. It is of paramount importance for every hypnotizing practitioner never to forget that the first duty which has been imposed on him by his academic studies and by his diploma is the duty of scientific thoroughness, and also of careful examination and making of the diagnosis; but he must remember that neither of these consists in mere scientific terms and belief in authorities. One can attain much by suggestion, especially if one uses it with perseverance, intelligence, and medical knowledge, and if one understands how to combine suggestion with other means. For example, if one does not succeed in curing stammering completely by suggestion alone, one should combine it with a systematic course of exercises (breathing, vowel, and consonant exercises). If one does not succeed in curing a lady of seasickness by verbal suggestion alone, one should rock her during the hypnosis thoroughly, and at the same time give her the suggestion of enjoying it. One will then probably succeed. The electric current is an excellent means of applying suggestion, but the holy water of Lourdes, the "prayer" treatment, Father Kneipp's method, and homœopathy, are not less good. I propose giving a list of those morbid conditions here which seem to me to respond best to suggestion, although the indications have by no means been sufficiently tested, and much will certainly have to be added to it:

Spontaneous somnambulism.

Pains of all descriptions, especially headache, neuralgia,

sciatica, toothache which does not depend on an abscess, etc.

Sleeplessness.

Functional paralyses and contractures.

Organic paralyses and contractures (as palliative means).

Chlorosis (extremely favorable).

Disturbances of menstruation (metrorrhagia and amenorrhœa).

Loss of appetite, and all nervous digestive disturbances.

Constipation and diarrhœa (provided that the latter does not depend on catarrh or fermentation). Gastric and intestinal dyspepsia (including pseudo-dilatation).

Psychical impotence, pollutions, onanism, perverted sexual appetite, and the like.

Alcoholism and morphinism (only by the suggestion of total abstinence).

Chronic muscular and arthritic rheumatism, lumbago.

The so-called neurasthenic disturbances.

Stammering, nervous disturbances of the vision, blepharospasm.

Pavor nocturnus of children.

Sickness and seasickness, the vomiting of pregnancy.

Enuresis nocturna (often very difficult, on account of the depth of the normal sleep).

Chorea.

Nervous attacks of coughing (also in emphysema).

Hysterical disturbances of all kinds, including hystero-epileptic attacks, anæsthesia, "phobias," and the like.

Bad habits of all kinds.

All hypochondriacal paræsthesiæ, irritable weaknesses, conceptions of impulse, and the like, are more difficult to cure.

According to Wetterstrand, epilepsy, hæmorrhages, etc., can also be influenced.

Suggestion may be tried in all pure functional nervous disturbances.

Many other illnesses have been enumerated in the literature of the subject. The reader can read these for himself in the articles of Liébeault, Bernheim, Wetterstrand, Ringier, and

others, in the various yearly volumes of the *Zeitschrift für Hypnotismus* (Leipzig: Ambrosius Barth). The list given above will suffice for every one to begin with, and later one forms one's own indications. One should, however, also mention the production of anæsthesia for small surgical operations, especially on the fauces and oral cavity, and also for labor.

I was enabled to visit my colleague, Dr. Wetterstrand, in Stockholm in the autumn of 1890; what I saw of his work was so highly interesting and instructive that I trust he will forgive me if I give some details of it here. He has considerably improved Liébeault's method, not only by means of going deeply scientifically into the cases, and by thoroughness and sharper criticism, but also in erecting practical appliances. He has two large rooms, which communicate with one another by means of a door, and in which all conduction of sound is enormously subdued by thick carpets, etc. They contain numerous sofas, armchairs, and couches. From nine to one daily the patients come in streams to Dr. Wetterstrand; they are first carefully examined, and if they are found to be suitable cases, conducted into the two rooms. First, those patients who have previously been hypnotized are again treated. The suggestions are whispered into their ears by Wetterstrand so softly that only the person for whom they are intended can hear them. In this way Wetterstrand achieves the powerful suggestion action of the sight of the number of people being so rapidly put to sleep, and avoids the disturbance of the mass action of the suggestions—*i.e.,* of each suggestion, which is only suitable for one patient, but which is heard by the others, as in Nancy. If Wetterstrand wishes to give one suggestion to two or more patients, he raises his voice correspondingly. The newly arrived patients look about them with astonishment, and see how all the others go to sleep in response to the slightest sign or awaken again, and observe the beneficial results. When Dr. Wetterstrand comes to them after a considerable time, they are already so far suggested that the hypnosis practically never fails. He owes his excellent results to this method (ninety-seven per cent. of all the patients, numbering some three thousand one hundred and forty-eight, were hypnotically influenced,

against only three per cent. who remained uninfluenced). Wetterstrand prefers to allow his patient to sleep for a long time, and believes that it is more advantageous to produce as deep an hypnosis as possible, with amnesia. I agree with him. I have witnessed some astonishing cures in his practice, and am convinced that they are due, not only to his striking personality, his consistency, and his patience, but also to a great extent to his excellent method. I had recognized long before that I lost a considerable portion of the advantages of the suggestion in the way in which I used to hypnotize some patient or other, accidentally, as it were, in the interval between various other work. It was impossible for me to have managed it otherwise. But I had never realized how the majority of failures could be avoided by his method so clearly until I visited Wetterstrand. One ought to devote one's self entirely for hours to the matter; one should allow each patient to influence the other, and, at the same time, one should observe and take notes on everything without missing a single advantage or hint which would lead to a deeper action in each patient. In this way one will achieve the maximum action for every patient. While I was with Wetterstrand I saw an hypochondriacal melancholic influenced within a short time by his perseverance and by the surroundings. This is one of the most difficult results to obtain. In reading Wetterstrand's book[1]—*e.g.,* in the passage where he describes his unique cures of morphinism—some people may become very skeptic. If I had not seen him operate, I should very probably have entertained considerable doubts. But it is only in respect of the epilepsy cases that I still harbor any doubts, and these arise from the question of diagnosis.

I wish to express considerable reserve with regard to this last-named point. I certainly believe that only certain cases are curable by suggestion. In one case, with a long aura, I have since succeeded in controlling the aura and in curing the epilepsy. Carl Graeter[2] succeeded in recalling the memory of an amnesic period in an extremely instructive case of an

[1] Wetterstrand, "Hypnotism and its Application in Practical Medicine." (Vienna: Urban and Schwarzenberg, 1891.)

[2] Carl Graeter, "A case of Epileptic Amnesia removed by Hypnotic Hyperamnesia," *Zeitschrift für Hypnotismus*, vol. viii., No. 3, 1897.

epileptic, without the least doubt, by means of hypnosis. But the epilepsy was not cured.

Both Wetterstrand[1] and Bernheim emphasize that one is apt greatly to undervalue the palliative action of suggestion in producing sleep and in quieting pain in severe incurable diseases, such as tuberculosis, cancer, etc. I would wish to add that one underestimates very vastly its enormous value in everyday medicine as an aperient, as a means of procuring appetite and sleep, and as a regulator of digestion, secretion, and menstruation.

It is invaluable in these conditions, and is quite harmless, in contradistinction to the scandalous abuse which so many practitioners make of narcotics and alcohol. One can produce sleep even in high fever by suggestion.

Ringier[2] has divided the two hundred and ten cases which he has treated into the following groups:

1. Dynamic neuroses, of a motor, vasomotor, and secretory nature.
2. Dynamic sensory neuroses, neuralgias.
3. Sleeplessness.
4. General cerebral neuroses (or mild psychoses).
5. Rheumatic affections.
6. Intoxications.
7. Various cases.

Of these:

	Cases
(1) Cured, with a report later that the cure had lasted	73
(2) Cured, without a subsequent report	15
(3) Considerably improved, with or without subsequent report	64
(4) Somewhat improved, with or without subsequent report	19
(5) Failure of the hypnosis, or not improved	25
(6) Interruption of treatment, mostly early	12
(7) Hypnosis for surgical cases	2
Total	210

[1] Wetterstrand, "Hypnotism and its Application in Practical Medicine." (Vienna: Urban and Schwarzenberg, 1891.)

[2] Ringier, "Results of Therapeutic Hypnotism in Country Practice." (München: Lehmann, 1891.)

Ringier complains with justification about the unsatisfactory results of the frequent early interruption of the treatment in country practice. The majority of the improved would have undoubtedly been cured if they had persevered.

Among the number of interesting tables, the following deserve special notice: twenty-seven recurrences among the considerably improved, nine recurrences among the slightly improved, so that he had thirty-six recurrences, all of which belong to the patients who were only improved.

Degree	Cure with subsequent Report	Cure without Report	Considerable Improvement	Slight Improvement	Failure
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
Somnolence	18.75	....	6.25	6.25	43.75
Hypotaxis	24.45	8.62	31.89	14.21	12.07
Somnambulism and deep sleep	48.05	5.19	33.76	6.49	5.19

Of two hundred and nine hypnotized persons (in one case there are no details on these points), sixteen fell into the condition of somnolence, one hundred and sixteen fell into the condition of hypotaxis, and seventy-seven fell into the condition of somnambulism or deep sleep.

In addition to this, Ringier met with twelve completely refractory persons out of a total of two hundred and twenty-one; in these a suggestive treatment could not be undertaken on this account.

The results, expressed in percentages, work out as follows:

Refractory	5.43
Somnolence	7.24
Hypotaxis	52.49
Somnambulism and deep sleep	34.84

The duration of the treatment, expressed in the number of sittings, is given as follows:

In	94	cases	only	1	sitting
"	43	"	"	2	sittings
"	23	"	"	3	"
"	12	"	"	4	"

In	4	cases	only 5	sittings
"	8	"	" 6	"
"	1	case	" 7	"
"	4	cases	" 8	"
"	21	"	more than 8	sittings

Of the last-named, one case was treated in thirty-five sittings, one in twenty-one, and one in twenty, while all the rest were treated in less than twenty sittings.

These tables disprove most conclusively the contention of our adversaries who try to compare suggestive therapy with the morphine habit.

The above are only a few summary extracts of some of the many tables which Dr. Ringier has compiled with the utmost statistical exactness from all points of view, and which show the matter in a critical light. His chief aim was to adhere strictly to objective observation, and not to allow his results to appear too favorable. These results confirm those of his predecessors and mine.

I used to teach suggestive therapy in my out-patient class for medical students in Zürich every Saturday from 2:30 to 4. The patients were derived from the town. I first examined them, and then, imitating Wetterstrand's example, made them all sit in armchairs in the presence of the students. I began with those who had already been hypnotized previously, and thus I saved myself from having to prepare the new patients. When the new patients' turns arrived, they were, as a rule, already so much influenced that they fell asleep at once. Like Bernheim, I explained to the apparently refractory patients that they were already influenced, and that sleep was not necessary in their cases. I then employed amulets, pieces of metal, and the like at times, together with suggested currents; in this way nearly all of them became hypnotized after one or two sittings (some of them, I must admit, however, only became hypotactic). I have not prepared a statement of the cases and results, on account of want of time, although I obtained very good therapeutic results. I may point out that these results were obtained in this simple way in spite of the disturbing presence of the students (many of the patients were embarrassed

by this), in spite of the fact that I only hypnotized once a week (sometimes twice in the more difficult cases), and in spite of the necessity of giving the suggestions aloud for teaching purposes, as well as in spite of the unsuitable quality of the cases.

From the year 1898 to 1905 I have only occasionally treated a few patients in Chigny, in the country, by suggestion according to Wetterstrand's system. In all, the number of patients has reached 236. Of these, only 4 proved themselves to be absolutely refractory (1.7 per cent.); 19 (8.0 per cent.) became only more or less somnolent; 146 (61.9 per cent.) became hypotactic; and 67 (28.4 per cent.) became somnambulic. A large number were unsuitable, hopeless cases; others only came once or twice, and then stayed away, so that the statistics of the results and failures do not prove much. The number of somnambulists would have been considerably increased if the material had been better and if they had had more patience.

In summing up the cases, one finds the following (c. = cured, i. = improved, u. = uninfluenced):

1. Actual psychoses, twenty cases, naturally without any visible result. In two cases of paranoia, however, the subjective symptoms were materially improved. (Both of them implored me to hypnotize them.) One idiot was cured of his migraine. In one case of deeply rooted periodic melancholia I succeeded in stopping the attacks as they were setting in by suggestion for a time, after the onset of the attacks had first been delayed. After the course of some weeks, however, they again returned. Ringier had succeeded some time ago in curing a mild early case of periodic melancholia, which I myself had diagnosed, by suggestion applied in the intervals. This does not prove much. But these observations are nevertheless worth recording.

2. Various psychopathies (constitutional). By "cured" I mean the curing of the pathological symptoms for which I was consulted in these cases. There were twenty-three cases, of which one was refractory and two failed to turn up a second time. Of the remaining twenty, c. = 6, i. = 8, and u. = 6.

3. Hypochondriasis, 18 cases. One patient disappeared immediately, and of the remainder, c. = 4, i. = 7, and u. = 6.

4. Hysteria, 29 cases. One patient failed to return. Of the remaining 28, c. = 15, i. = 8, and u. = 5.

Two hysterical married people were already improved, but nagged each other with autosuggestions, and, in consequence, went away uncured.

5. Astasia-abasia (a nervous disturbance of standing and walking, mostly due to hysteria), 1 case: improved.

6. Delusions of impulse, 4 cases: c. = 1, 1 disappeared, u. = 2 (these latter also did not return after a short time).

7. Stammering, 4 cases: i. = 3, somewhat improved = 1.

8. Blepharospasm, 1 case: improved.

9. Facial neuralgia, 2 cases: c. = 1, somewhat improved = 1.

10. Epilepsy, 5 cases: uninfluenced.

11. Intercostal neuralgia, 1 case: cured (a female aged seventy-three).

12. Writer's cramp, 2 cases: i. = 1, u. = 1.

13. Cardiac neuroses, 2 cases: cured.

14. Various neuroses, 14 cases: c. = 5, i. = 3, and u. = 6.

15. Sleeplessness, 22 cases, of which 1 was refractory and 1 failed to return. Of the remaining 19 cases, c. = 14, i. = 5.

16. Enuresis nocturna, 7 cases: c. = 2, i. = 4, 1 disappeared.

17. Profuse menstruation of increased frequency, 4 cases: c. = 3, and i. = 1. In one case the menses were definitely regulated for the first of each month, and to last for three days.

18. Obstinate cephalalgias, 11 cases: c. = 11. One case was associated with contracted kidney and albuminuria, and, notwithstanding this, was permanently cured. Two further cases were due to overwork at school. One of these was that of a young man who was suffering so severely that he was nearly compelled to give up his studies. I succeeded in again making him capable of working well after a fortnight, so that he passed his matriculation a few months later, without any return of the headaches.

19. True neurasthenia (according to Beard)—*i.e.*, cerebral exhaustion following overwork—3 cases: c. = 2, a little im-

proved = 1. The last case was not a pure one; it was complicated with satyriasis and psychopathy. But in its place one could include the two cases tabulated under 18. A psychopathic disposition was discernible in all the cases, although this was not extreme. In three of the four pure cases the cause lay in overwork at school on the classical side, while in one the cause of the exhaustion lay in overwork at school on the modern side; in all four the pupils were preparing for an examination. I suggested to the subjects in all cases to leave off learning things "off by heart," and also to follow their school-work as an intellectual game, in which they should take a great interest in their subjects. I further suggested away the examination nervousness, and substituted for this good sleep, good appetite, and coolness, presence of mind, and ease at the examination. This had the desired result, and was both in place and justifiable in connection with the antediluvian system of study and examination which is unfortunately still common, and which is especially to be met with in our classical schools (Gymnasien).

20. Impotence, 4 cases: c. = 3, u. = 1. One of these cases occurred in a married man who was formerly continent, but who was psychopathic. During his whole life he had only had pollutions during sleep, but had not experienced orgasm during waking. Thus, he suffered from impotentia coeundi, in spite of libido. I first succeeded in obtaining good erections during hypnosis. Then the complications in the wife were dealt with by operation (hymen and vaginismus). Coitus was not quite successful during the hypnosis, but, as the result of suggestions, was attained after consistent stages in the course of time. Two pregnancies of the wife have assured the result already; the children are healthy.

21. Constipation, 8 cases: c. = 4, i. = 2, u. = 2 (among the last there was one case in which I was only able to produce slight somnolence).

22. Perverse sexual appetite,[1] 1 acquired case, with excel-

[1] I only employ suggestion in congenital cases from ethical reasons, to lessen the impulse and to soothe, etc. I regard the attempt to divert impulse toward the opposite sex as inadmissible, and the same applies to marriage (see Forel, "The Sexual Question," Rebman Company, New York). For this reason, one cannot speak of a cure in these cases.

lent result. Normal libido, with dreams corresponding to this, were obtained. Supposed cases, 7: i. = 4, u. = 3.

23. Sciatica, 4 cases: c. = 1, u. = 3. The latter three patients interrupted the treatment after one or two sittings.

24. Digestive disturbances, 5 cases. One case disappeared at once. Of the other 4, c. = 2, i. = 1, and u. = 1.

25. Chorea, 2 cases: i. = 1, u. = 1.

26. Chlorosis, 1 case: cured.

27. Rheumatic pains, 2 cases: cured.

28. Osteo-arthritis, 1 case, which was not cured, as was to be expected. The patient was only hypnotized a few times, in order to satisfy her desire for this.

29. Asthma, attacks of giddiness, "area celsi," with neuropathy, 4 cases, all not cured. One curable case disappeared at once, and one incurable case did likewise. In one case of asthma which had previously been successfully treated by a colleague of mine, disturbing phenomena appeared as the result of the long way the patient had to come, and these led to autosuggestions and failures. The fourth case was that of a severe, almost idiotic psychopathic condition.

30. Phobias, 5 cases: c. = 3, and i. = 2.

31. Sexual anæsthesia, 2 cases: uninfluenced. In one case, which, however, was not quite complete, a very slight improvement was noticed.

32. Onanism, 6 cases: c. = 2, and i. = 4.

33. Sexual hyperæthesia, 2 cases: c. = 1, and i. = 1.

34. "Exhibitionism," 1 case: improved.

35. "Pæderosis" (sexual impulse directed toward children), 1 case: not cured.

36. Nervous diarrhœa, 2 cases, both of which were cured. The one case was complicated by opium-poisoning, due to a prescription error on the part of a practitioner.

37. Lumbago, 1 case: cured.

38. Pathological jealousy, 1 case: cured.

39. Alcoholism, 1 case: improved.

40. Myelitis, 1 case. I attempted to allay the pains, in response to the urgent requests of the patient's family. Occasionally there was a slight symptomatic result, but the case

must be tabulated under " not cured." The patient, a female, was fairly suggestible.

41. Pædagogic treatment, 1 case. A ten-year-old schoolboy, who got up to boyish pranks, and was inattentive, as a result partly of the pedantic method of teaching, and partly of the suggestions of other naughty boys. The result was marked.

I refer the reader for further hints on practical suggestive treatment to the *Zeitschrift für Hypnotismus* (1892 to 1901), edited by Dr. Oscar Vogt. The interesting casuistic and critical articles of Messrs. Brodmann, Bruegelmann, Loewenfeld, Rauschburg, Delius, Tuckey, Bonjour, Ringier, Bramwell, Baur, Graeter, Monier, Inhelder, Hilger, van Straaten, Seif, Cullerre, and others, ought to be mentioned here. I cannot enter into the details of these articles in this place; all of them appear in the journal named above. The *Zeitschrift* has recently been amalgamated with the *Journal für Psychologie und Neurologie,* under the same editorship.

Alcoholism and Morphinism.—Lloyd Tuckey[1] and Hirt recommend suggestion in the treatment of alcoholism. I must caution against a crass misunderstanding in this place. It is an absolutely idiotic and harmful undertaking to try to convert a " soaker " into a moderate drinker by means of suggestion, as Hirt advises. One sins against the First Commandment for a lasting result of the suggestion therapy, by allowing the damaging cause of the illness to persist after the result. There are, it is true, no rules without exceptions, and it is possible that in rare cases a not consummate drinker may be rendered moderate in this way, provided that he has been led to abuse alcohol as a result of definite circumstances, and not from hereditary causes nor from psychopathic conditions. But in the large majority of cases one will experience relapses sooner or later, on account of the contra-suggestion induced by the enjoyment of alcohol and by being " sociable." I have observed this repeatedly in drunkards, who attempt to begin again to drink moderately. The majority of drunkards are, besides, individually predisposed, and become incapable of resisting

[1] Lloyd Tuckey, "The Value of Hypnotism in Chronic Alcoholism." (London: Churchill, 1892.)

alcohol from habit. If suggestion is, therefore, to be of real use in the treatment of alcoholism, one must suggest definite and complete abhorrence of all spirituous liquors, lifelong total abstinence from the same, and, if possible, the joining a temperance society. Tuckey agrees with me in this respect; and the secret of the renowned and costly "gold cure" of alcoholics by Keeley is undoubtedly to be found in this idea. Keeley did not suggest moderation for his patients; he suggested complete abhorrence for all spirituous liquors.

One does the same in the treatment of the morphine habit, except for the belonging to a society. But there is no tempting sociability, no compulsion to drink in company for the morphine-takers, as there is for alcoholists. For this reason the suggestive sociability of the temperance society, which is devoid of alcohol, is so important for the latter.

I myself have converted many a drunkard to abstinence by means of suggestion. Still, as Bonne[1] has justly said, the abstaining medical practitioner suggests infinitely better, since his example and his inward conviction assist the suggestion. I have shown the good results statistically of suggestion in alcoholism as long ago as in 1888.[2]

[1] Bonne, *Wien. Med. Presse*, No. 45, 1901.
[2] Forel, *Münch. Med. Woch.*, No. 26, 1888.

CHAPTER VII

HYPNOTISM AND PSYCHOTHERAPY

Since suggestion has gained a certain recognition in medicine some curious opinions have been aired. The doctor and also the medical student hear a lot about suggestion, and read of it occasionally, too. The subject is often discussed theoretically in leisure hours, but, with a very few exceptions, it is neither taught nor learned in the schools. Those who pass judgment on it rarely possess any practical experience.

Arising out of this superficial discussion, a kind of official axiom, spoken with the utmost authoritative arrogance, is met with. This axiom takes something of the following shape:

Waking suggestion, or psychotherapy, is a very important and proper thing, and every capable medical man must have some acquaintance with it; it has actually been intuitively known from the earliest times. But hypnotism is quite another matter; it is a suspicious thing, is unscientific, humbugging quackery—is, at all events, disreputable, or it is harmful or even dangerous.

This sounds irresistibly comical to those who are acquainted with suggestion. A surprising superficiality and a remarkable psychological shortsightedness are really required to construe two different things out of a common matter. It is really immaterial in judging the nature of psychotherapy whether a somewhat larger or smaller dose of sleep is suggested. The person who is influenced psychotherapeutically is placed under a suggestive influence—*i.e.,* his brain dynamics are used as the source of energy for dissociatively influencing all those disturbances which depend more or less on the brain, either directly or indirectly. Whether this is called hypnosis or psychotherapy is a matter of no importance.

For example, Professor Dubois has launched forth into an overbearing effusion of this kind in the *Correspondenzblatt für Schweizer Aerzte* of February 1, 1900. This author has already been sufficiently disproved by Dr. Ringier, who proved to him that the hypnotizing practitioners actually do and teach just those things which he imagines he could teach them.

I do not for a moment dispute that there are swindlers who hypnotize, and that there are hypnotists who employ verbal suggestion unintelligently, mechanically, and without sufficient individualizing. But the same sin is met with in every branch of medicine, as is well known, and it is a mean and unworthy slander to throw the whole art over, as Dubois does, instead of dealing with the individual who offends, and to support one's self in this on such subtleties as the derivation of the word "suggestion," or on general suspicion.

I wish further to warn one not to cast about general psychological and psychopathological words, such as "will," "nervousness," "neurasthenia," "psychical," etc., in the way that Dubois and others have done.[1]

Dubois[2] elaborated his views in 1904 in a book. This book, which was adapted to the fashion of the moment, deserves a few words. It is smartly written, and contains the personal experience of the author in psychotherapy, as well as views which one can find, sometimes even with almost identical words, in Bernheim's book and in the former editions of this work (especially the third and fourth editions, 1895 and 1902). I ask the reader to compare them. At every opportunity the author attacks the professional hypnotist (*les hypnotiseurs de profession*) and hypnotism in general in an odious and overbearing manner, although his whole book consists of views which are only slightly modified from those of the hypnotists. He claims, certainly, that he appeals to the "reason" and the "will" of his patients, and that he does not suppress both of

[1] For example, I may quote the following phrase of Dubois': "Nervousness, under which term I recognize hysteria, neurasthenia, and all related mixed forms, is a psychical disorder, an altered condition of mood." Everything thus is thrown into one bag, no matter whether it be incurable hypochondriasis or an easily curable case, and everything is an "altered condition of mood." No more need be said.

[2] Dubois, "Les Psychonévroses et leur traitement moral." (Masson, Paris: 1st edition, 1904; 2nd edition, 1905.)

these, or even turn the patients into machines devoid of will, as these wicked hypnotists do. Curious! We all say and do exactly the same thing. Not a single one of my patients nor any of the patients of my hypnotizing colleagues, is turned into our "will-less" machine. I have emphasized this for many years. Only a few somnambulists who have always been weakly have become relative and merely transitory will-less machines. These persons are used as subjects for scientific experiment, or are produced as curiosities at certain Barnum shows. And what about the "free-will" which Dubois respects so much? He claims to be a monist (using my own arguments, but without even mentioning my name!), and does not believe in the "freedom" of the will. But the most remarkable thing of all is that Dubois imagines that he only influences his patients by means of reasoning. Does he really believe this? Why should he, then, treat them personally as well? A short theoretical explanation would suffice to effect a cure. Does he really not realize that his tone, his personality, his therapeutic reputation, act as the moving and intuitive hypoconceived suggesting factors? Professor Dubois slangs hypnotism and suggestion, while in reality he actually practices suggestion from alpha to omega, only in a slightly different form. Dr. N. once attacked the wandering magnetizers, from whom he had learned to hypnotize. The late Professor Delbœuf, of Luettich, took the part of the latter, and reproached N. "for gnawing at his mother's breast, which had nourished him." I must admit that the expression was somewhat brusque. It appears to me that Dubois deserves to receive a similar reproach. Curiously enough, he does not slang the wandering-show hypnotist Krause, who pretends to produce waking suggestion, so that he does not come into contact with the law of the canton of Berne; but he reserves his displeasure for his colleagues, who did the same as he does, honestly and long before him, even if it be under another flag. Only Bernheim finds some favor in his eyes.

Dubois erroneously calls the milder cerebral neuroses, such as hysteria, phobias, neurasthenia, etc., "psycho-névroses" (psychoneuroses). As is well known, the word "psychoneuroses" had long ago been used by Griesinger and others to indi-

cate functional or severe mental disturbances or psychoses (*Vesanien*), so that if it were employed for other conditions it would lead to a most horrible confusion. Dubois deals also with psychiatry in a deprecating way, although he does not appear to have studied the subject closely; for he mentions things as his views which have been recognized by the asylum doctors for a century, or which have been disproved by them long ago. According to Dubois, conviction enters through the front-door of the mind, while suggestion enters by the back-door. This sounds very pretty as an attempt to blacken the doctrine of suggestion; but the entrance-doors through the senses are in reality the same for both. And when the hypnotist tells his patient openly and honestly, as all of us do, that he acts on his hypoconscious brain activity in order to cure his illness, he is more truthful toward the patient than if he acts as if the latter did not exist, and pretends to speak solely to the patient's reason and freewill. It is absolutely false for the hypnotist to speak in this way, since he really acts by means of suggestion. I wish to bring this home to Professor Dubois. Dubois writes the following, for example: "Quoi de plus absurde que de s'endormir en plein jour; alors qu'on n'a aucun besoin de sommeil, en cédant bêtement a l'injonction d'un hypnotiseur." He continues to abuse in this style those who have taught him. Why on earth should it be absurd to be put to sleep for half an hour during the day if one is nervously excited, as long as one is composed thereby, and as the night sleep and the steadiness of the nerves can be restored? According to Dubois, the condition of sleep is "stupidity" (see p. 176 of Dubois' work). I wonder whether he goes to sleep! A little later on he states that one should rely on one's reason and watch the condition of one's mind, in order to avoid autosuggestions—that this is better than being able to be cured by suggestion. We certainly do rely on our reason, but we do not cure autosuggestions in this way alone. And it is absolutely false to insinuate that we render people less reasonable and more suggestible by therapeutic hypnotizing. On the contrary, we remove pathological brain dynamisms, and thus render the will and reason freer. Dubois, in his one-sided bias, goes so far as to apply the term "thaumaturges" (con-

jurers) to his hypnotizing colleagues, and to state that he regards the show-hypnotist Krause as being more instructive than the hypnotizing medical practitioners. I do not know with which of the latter he has become acquainted, nor why he imitates such stupid people as we are.

There is one sentence of Dubois' which I cannot withhold from my readers: " L'emotion est psychologique, et non physiologique; elle est intellectuelle et non somatique." He has even had this nonsense printed in italics, and at the same time he professes to be a monist, as if a monist could recognize something psychological which does not correspond to a physiological brain activity.

According to Dubois " a true savant, an intellectual being, may be neurasthenic, but cannot be hysterical," because the hysterical are never logical. I protest. There are some extremely logically-thinking, gifted hysterical persons.

Again, in melancholia he finds the most characterized psychosis; and yet he allows a melancholic to remain at large because " he is a foreigner," with the result that he may kill himself. He regards hypochondriasis as being nearly related to melancholia. It is certain that there is hardly a single asylum doctor of experience who would endorse this opinion.

Dubois employs the suggestive cure for constipation as the most typical action of his psychotherapy in almost the same way in which I used to do this, and dares to abuse and laugh at the hypnotizing practitioners from whom he has learned this. In this he again uses his pet word " persuasion " in opposition to " suggestion." But it is just in this that every one who has understood what I have written, who is acquainted with the matter, who has read Dubois' book, and who is not prejudiced, must realize at once that Dubois' persuasion is precisely the same thing as suggestion. He mentions, for example, one patient whom he had cured of constipation. This patient feared that he might have a relapse, because mid-European time had been introduced into Switzerland, and the altered time might interfere with the methodical time of his daily motion. This patient is supposed to have been cured of his constipation by means of persuasion, and not by means of suggestion!

I must apologize to my reader if I have detained him too long with Dubois' *psychonévroses* and his *traitement moral,* but it was absolutely necessary. Dubois and his book, as well as the manner of belittling hypnotism and those who deal with it honestly, and of boasting in the same breath of a "psychotherapy," are all becoming one of the well-known fashionable complaints which, unfortunately, attack medicine so frequently. This "psychotherapy" is only a piracy of the doctrine of suggestion, which is frequently a very bad imitation, and is also mostly incomplete.

One has to analyze very exactly and to individualize to discover what the form of the original disturbance is which lies behind the manifold neuropathological phenomena; whether hysterical dissociation, hypochondriacal conception of impulse, epileptic constitution, psychosis, or even an organic cerebral disturbance, take part in the process; how much is acquired and how much inherited; what part the real exhaustion of the nerve centers play; and so on. One must proceed in accordance with what one finds.

One should inquire at times for previous emotional psychical traumata, which might act casually, especially when dealing with hysterical disturbances, if one follows the advice of Freud. However, this should be carried out with great caution and wariness, for one can easily do much more harm than good by being disregardful of tact and wise behavior in asking questions which could offend. Freud calls those earlier emotional conceptions, which are often sexual, and which continue hypoconsciously to influence the whole personality and to cause nervous disturbances, "strangulated emotions" (*Eingeklemmte Affekte*). One should analyze them suggestively, and remove the emotion with which they are associated. Still, one should not construe a dogma from these individual phenomena, as Freud has done.

Psychotherapy is suggestive therapy, but is developed in markedly different ways, in accordance with the requirements of the cases. The usual verbal suggestion will mostly suffice to remove a simple headache. But if one is dealing with a disposition, one will, as a rule, find out all sorts of habits, inherited

predispositions, frames of mind, etc., which are connected with the disposition; it then becomes the function of psychotherapy to regulate this.

It has become fashionable in the modern nerve sanatoria to of the metabolism, partly on suggestion, and partly on overfeeding, rest treatment, hydrotherapy, electricity, and the like. The action of these methods depends partly on the acceleration of the metabolism, partly on suggestion, and partly on overfeeding. They are for the most part very expensive, and can generally be replaced with advantage by cycling, walking tours, climbing expeditions into the mountains, bathing in the open (sea or river), and by sleep. In many cases, it is true, the compulsion of obeying methodically, and the feeling that one must be receiving something in return for one's money, do good in themselves. But the greatest disadvantage of these methods of treatment is that after they have terminated the old routine, with all its old harmful belongings, frequently begins again.

Psychiatry has learned to value occupation very highly, especially in connection with agriculture, as an important remedy in chronic insanity.

In 1894 I myself, together with the engineer, Mr. Grohmann, recommended an occupation treatment for nervous patients, and P. J. Moebius has warmly supported this. Mr. Grohmann noticed in this respect that a combination of the suggestive therapy carried out by Dr. Ringier with his mechanical occupations was frequently of value for the patient.

Lastly, if one cannot succeed with ordinary verbal suggestion or with the extended psychotherapeutic influences, among which music, mental and bodily undertakings, etc., play a part, one will have to intermingle other forms of treatment, medicaments, massage, and the like, according to the case. For example, the Weir-Mitchell rest-overfeeding treatment, which can work excellently in true exhaustion of mind or body, may actually do a great deal of harm if it is applied blindly for all sorts of cases. Dubois, who formerly employed this treatment for all nervous patients, has converted himself to my views in this respect also, without even mentioning my name (*loc. cit.*).

I reported some interesting psychotherapeutical cases with

explanations in the *Zeitschrift für Hypnotismus* of 1902 (vol. x). I propose mentioning these cases here.

My principal idea in planning this was the thought that it is not the muscular work in itself which acts curatively by diverting the brain from its pathological activities, but that it is chiefly the centrifugal concentration of the attention on the purposeful muscular innervation resulting in an occupation which is efficient, and which satisfies the mind. Muscular work which dulls the intellect, such as hygienic gymnastics, dumb-bell exercises, or Indian clubs, etc., in the first place does not satisfy, and, above all, does not prevent the attention from finding its way into side channels. And, besides, this kind of useless exercise cannot be continued permanently as a calling. The beneficial action of useful occupation, especially agricultural work, for the insane has long been recognized.

But not every neuropathic patient is fitted for gardening, carpentry, or agriculture, and the pathology of the brain life is by no means exhausted by ordinary suggestions of good sleep, of appetite, and of normal functions, etc. Furthermore, one knows that genius and insanity are related. But even if it is known that many a genius has died of insanity, it is probably less well known to medical practitioners that many a genius, or at least talents, lie dormant behind the cloak of certain forms of hysteria and other psychopathic conditions—that these languish like a bird in a cage. It is generally not recognized that the usual stereotype treatment of the nerve doctors paralyzes the wings of the bird instead of freeing them. It is here, if anywhere, that a correct diagnosis is required, and that an individualizing treatment should be employed. Not every one who feels that he is a genius really is one. It requires the experience of the asylum doctor to discover the few who are not "in themselves failures" amongst the many brains which are suffering from delusions of exaltation and mental weakness, but which are possessed of a full share of exceptional talent, which has only been limited and paralyzed in its development by certain disturbances. But if one discovers such a buried treasure lying in obscurity in any one of the many nervous patients who seek help (including the insane or encephalopathic

patients), it becomes an urgent duty to depart from the stereotype methods, and to give the eagle back his wings. Hypnosis and occupation with manual work can fulfill excellent services as auxiliary means here. But they do not form the principal factor. One must gain the full confidence of the patient by affection and intimately insinuating one's self into all sides of his mental life; one must sympathize with all his feelings, get him to relate the whole story of his life, live it all over again with him, and enter into the feelings of the patient. But one must naturally never lose sight of the sexual aspect, which differs so enormously according to the kind of person, and which may form an actual danger. I need scarcely mention that the doctor has to be on his guard in these cases, although this is a very important point. It must be understood that it is not sufficient to follow the usual stereotype medical control, which consists in paying attention to the discharge of semen, or coitus, and pregnancy; but it is necessary to take into consideration carefully all the higher regions of the intellect, mood, and will, which are more or less connected with the sexual sphere. When this has been carried out, one has to map out the proper definite aim in life for the patient, and start him on his way full of energy and confidence. One will often be surprised to see all the psycho-pathological disturbances disappear as if by magic, and to see an active, capable, distinguished, valuable person develop out of the unhappy, incapable, nervous patient. He frequently astonishes his colleagues by his capacity for work, and remains a true friend to the doctor who has treated him. Out of an unhappy man a happy one has arisen; out of a failure a talented one, or even a genius; out of a diseased person, a healthy man.

Let me now pass on to a few short examples. My friends who are mentioned here may recognize themselves in the accounts, but in the interest of their fellow-creatures they will forgive me for this publication.

1. A very highly educated young lady, daughter of a gifted father and a very nervous mother, was regarded as being less talented than her brothers and sisters. She had always been nervous, and became increasingly hysterical. At length very

severe signs of paralysis made their appearance, and she was admitted into the asylum about the year 1892. Having been practically cured at first by ordinary hypnosis, her condition relapsed after some months, and she was again almost totally incapable of walking. She was again cured by hard agricultural work with peasants. She was unhappy, however, not to possess a definite aim in life. It was not without some doubts that I agreed to her following her ardent wish to become a nurse. Her parents were very anxious about night duty, but this was carried out without complaint with the assistance of a few suitable suggestions. She entered into her calling with great enthusiasm, and performed her duties thoroughly, no matter how hard they were, and became more and more active in every direction. At the present moment she is one of the most energetic members of a ladies' committee which does wonders in philanthropy.

2. A medical practitioner suffered for a long time from severe, presumably neurasthenic, disturbances, and attempted in vain to cure himself by all sorts of means. He came to me in 1894, and told me his tale of woe. I encouraged him, advised him not to take any notice of all those disturbances, and impressed him with the high aim of his life. We agreed about this. He went away. Later on he wrote to me that he had been cured by this single conversation.

3. A young man, with a moderately marked hereditary taint, came from a very religious family. He was very talented, and developed a nervous affection which bordered on insanity. He made a desperate attempt to commit suicide, and was admitted into a hospital for nervous diseases, after he had completely given up his studies. The prognosis made was very gloomy. He was absolutely incapable of working, suffered from headache, sleeplessness, incapability of carrying out any kinds of mental work with attention. He took no notice of what he read. Gloomy and despairing, he still did not show any signs of melancholic inhibition and the like. He was perfectly aware of his psychopathic condition and of the failure of his existence. He had, besides, suffered from various conceptions and deeds of a compulsory nature, which had led him

into difficulties. He was brought to me as a hopeless case in the year 1895. I was soon struck by the young man's gifts. More intimate association with him revealed to me that his inmost being was absolutely dissatisfied. Although he had been brought up in a very strict orthodox manner, he found that he could not believe in those religious dogmata, and in consequence thought himself cast out and lost. Besides this, the routine way in which he was compelled to study and in which he had been brought up was distasteful to him. His life seemed to him to have no aim. First of all, I eased his mind about religion, and showed him that one can be a happier and more useful person without adopting any positive beliefs. Next, I showed him that simply learning things by heart was the essence of insipidity, and that taking an intellectual interest in a subject represents a much higher standard. I told him not to try to learn any more, but only to investigate, to read those things which interested him without bothering whether he remembered them or not. In this way I restored his self-confidence and also some enjoyment of life. He began to read his books with pleasure and interest, instead of learning out of them in a nauseating sort of way. He began to live afresh as a philosopher and free-thinker. He then became an enthusiastic temperance advocate, and assisted me in founding new abstinence organizations. My patient, whom I had at first been compelled to have watched on account of suicidal tendencies, soon became my friend and fellow-worker. The nervous disturbances disappeared one after the other, and after a time he undertook, with my consent, a prolonged journey by himself in a hot, uncivilized country in order to complete his convalescence, and returned completely cured and self-confident. He then recommenced his studies, a few years later passed his final examination with honors in all subjects, was admired by all his comrades on account of his enormous capacity for work, and is now leading a perfectly regulated, normal life.

4. An hysterical lady, who was very talented and might almost be considered to have been a genius, consulted me many years ago in Zürich. She had been psychopathic from childhood onward, and suffered from attacks of classical hysteria,

and became very excited from various causes, especially by having to live with a near relative. She preferred to remain single for various reasons of wisdom, although she had had ample opportunities of getting married. I attempted hypnosis. This set in with deep hysterical sleep, and convulsions began to manifest themselves. I awakened her with difficulty and force, and said to her boldly that the result was even more powerful than would have been expected; she would soon recover, only she had been rather too strongly influenced. From this time onward I only used suggestion to her during the waking condition. After quite a short time almost all the symptoms had disappeared, including the obstinate constipation from which she had suffered, and, what is of importance, including the attacks also. I explained to her, notwithstanding, that work was the most important thing for her, and that she must have a definite object in life. She did not wish to have a family, but had long been interested in a certain philanthropic work. We then took up this subject. Instead of ordering baths, electricity, and massage, I gave her a number of books dealing with the subject of her pet theme, and also introduced her to the exponents of this and similar undertakings. She plunged herself into the work with enthusiasm, and displayed marked interest in all the details, as well as considerable understanding and an astonishing capability for work. She improved day by day, and left us after a few weeks. Later on she achieved very important results within a short time in her philanthropic undertakings.

5. An accomplished young man, of hysterical, impulsive constitution, became ill as a result of mental excitement which was caused by painful circumstances. A number of different, apparently very severe mental disturbances followed one another, and among these was on one occasion a complete delusion of persecution with hallucinations. He had been ill for two years in all before he came to me. The bad prognoses which had been given him had played some part in this illness. On one occasion he had been told that he was phthisical, on account of a pulmonary hæmorrhage; on another occasion he was supposed to be suffering from general paralysis of the insane, and had

been treated with mercury, although syphilis had certainly never been present. The lungs had certainly never been infiltrated, and remained quite healthy. I failed to detect any traces of general paralysis of the insane. The most striking part of the anamnesis was the sudden change in the form of illness, in response to a different prognosis or treatment, or in response to depressing or comforting emotions. The man had been condemned to inactivity, to giving up his career, etc. When I told him definitely, after having examined him carefully, that there were no traces of any organic brain disturbance to be found in him, and that even an actual psychosis could not be detected, and that he was merely suffering from hysterical autosuggestion, he already felt much better. A few hypnoses sufficed to remove all the disturbing symptoms. But the prescription to resume his career, and also to become a total abstainer, acted best of all. He was discharged cured after a short time.

Formerly, in the eighties, I used to prescribe the stereotype mental rest, inactivity, bodily exercise, and God only knows what else, in these cases. I was still suffering from "belief in the authorities," and my patients who suffered in this way did not get better. In these cases the brain is not exhausted and incapable of working, as one supposes, and as one would be inclined to believe at first, but it is only misdirected, and works in false tracks. Its natural dispositions are starved and become inhibited, and the activity incited does not suit it; or certain scruples of a religious or sentimental kind paralyze every activity, so that an open path is formed for pathological brain activities. It is this which one must recognize and must alter by a bold move. The neurokyme of the brain must be brought again on to the right track, just like a central telephone exchange which has been disorganized by a thunderstorm. These patients need not even possess genius or special talents. They may be the most commonplace individuals. But, on the other hand, one must be careful not to believe every psychopathic patient who considers himself to be an unrecognized genius, and wishes to study higher philosophy. There are fifty of this kind to one of the kind mentioned above. Agriculture is just

as well adapted for him as it is for the weak-minded or for the insane. The mind which is merely inhibited is not inclined to boast like a person with ideas of exaltation, nor to overestimate its own value. One has to worm one's way into it, to seek it, and to recognize it. But then one can apply the lever to the right spot, and may no longer be satisfied with the everyday suggestions, with gardening and carpentering, nor speak about rest and overfeeding, baths, electric and other forms of treatment.

However, a deeper insight and psychological judgment is necessary in carrying this out. It is quite wrong to label every mad bragger and boaster an unappreciated genius, or, on the other hand, to label every genius a madman, as the public so glibly do. In doing this, one would confuse everything that does not submit to the dictates of fashion or prejudice, be it nonsense or inspiration.

Lastly, one should understand that there are large numbers of transitions between these cases and those ordinary cases in which the suggestion treatment is applied. It is necessary to gain the confidence and appreciation of the patient in every suggestive treatment; it is necessary to proceed with steadfast assurance and with intrepid optimism, as long as there is hope. Every result depends primarily on the result of the first sittings in the cases mentioned above, as it does in ordinary hypnotism. One should besiege the fortress skillfully from all the points of attack. The first volley is decisive, no matter whether it is fired off during hypnosis or during the waking condition. In this way both sides gain in courage, and the power of the suggestion is immediately strengthened. Should, however, a negative, pessimistic frame of mind gain the upper hand in the patient in response to an initial failure, the later results will become more and more problematical. Therapeutic failure may occur when there is a relatively good hypnotic result, or even (though this is rare) when somnambulism has been achieved, and may spoil it all, in spite of the fact that an organic reason for this does not exist.

CHAPTER VIII

EXAMPLES OF CURES EFFECTED BY SUGGESTION—A CASE OF SPONTANEOUS SOMNAMBULISM—THE CURE OF CONSTIPATION, AND THE RATIONALE OF IT

I SHOULD be overstepping the limits and objects of this work were I to present the reader with long lists. Lists of this kind have already been published on several occasions, and I cannot do better than to refer the reader more especially to Bernheim's and Wetterstrand's classical works, and also to Ringier's careful compilations, and to the *Zeitschrift für Hypnotismus,* of which mention has already been made. But I propose to touch upon a few examples in this place:

1. A thoroughly respectable servant girl suffered in the summer of 1888 from profuse menstruation, which increased in spite of medicines, until in the autumn the periods set in every fortnight, and lasted for a whole week. The girl, who had always been pale, became extremely anæmic, and looked as pale as a ghost. She lost her appetite, and slept very badly, mostly only dozing during the night, and experiencing bad dreams. Her master, whom I knew personally, told me of this sad condition, and himself thought that she would have to return to her parents in the country, and that she would probably not recover. I requested him to bring the girl to me. It was evening, and she had been losing excessively, as usual, for four days. I told her to sit down in an armchair and to look at me. She had scarcely fixed her eyes on my finger when her lids closed. I then suggested catalepsy, anæsthesia, etc., with good result. This encouraged me to suggest an immediate cessation of menstruation. This suggestion was given in connection with touching of the abdomen, and declaring that the blood flowed into the arms and legs from the pelvis, and it succeeded in a few minutes. Finally, I suggested good sleep and a good appetite.

I gave orders in her home that the housekeeper was to control her menstruation. The loss did not recur, and the girl slept fairly well during the following night. I hypnotized her again a few times, and ordered the next menstruation to appear four weeks later, to be sparse, and to last for two and a half days only. I obtained a good deep sleep in the course of three or four days, and a reasonable appetite after a week, by means of suggestion. A regular morning evacuation of the bowels on getting up was also achieved (the patient had previously been obstinately constipated). The girl improved visibly day by day from this time. The next menstruation arrived after twenty-seven days (one day too soon) at the hour suggested, was sparse, and only lasted for two days. Since then the girl has menstruated regularly every four weeks; the loss remained moderate in quantity, and did not last for more than three days (in response to my suggestion). Her color returned after a few weeks, and since then she has been able to carry out her duties regularly without interruption, although she is still somewhat weak and anæmic. She has not been hypnotized again, save once, on which occasion she had again become somewhat exhausted and had lost her appetite (April, 1889). She was still quite well in 1895, but I have not seen her since.

2. An old alcoholic subject, aged seventy years, who had cut his throat twice during attacks of delirium ten years previously, had been taken care of in the Burghoelzli Asylum from 1879 until 1887 as a confirmed drunkard and scoundrel. He seized every opportunity of getting drunk on the sly. He had hallucinations when he was drunk, and became dangerous to himself and others. Apart from this, he was the worst of the intriguers who opposed my attempts to introduce abstinence among the alcoholics in the asylum; and, although he was otherwise good-natured, he teased the others about the temperance society. During the last few years he suffered considerably from lumbar rheumatism, which had quite crippled him, and which had hindered him in his work. He could not be allowed the least freedom without at once abusing the freedom by drinking.

I had long since given him up as hopeless, but nevertheless attempted to hypnotize him in 1887. He proved to be very

suggestible, and I succeeded in getting him to be remarkably earnest in a few sittings. The intrigues left off as if by magic, and after a time he asked of his own initiative to have the wine which I had allowed him in small quantities, because I regarded him as a hopeless case, struck out of his diet.

Soon afterwards the rheumatism disappeared entirely in response to suggestion (up to March, 1889, it had not reappeared). He continued to improve, and became one of the most ardent abstainers in the asylum. I hesitated for a long time before I allowed him to go out, but did this, after all, in the summer of 1888. When he was allowed to go out, he never abused the opportunity, although he always received some pocket-money on these occasions. He kept his vow of abstinence, attended the meetings of the temperance society in response to suggestion, and when he went into the town he never drank anything else but water or coffee, or things of this kind. He would not have been able to have indulged on a single occasion without being found out, as he was totally incapable of resisting the effects of alcohol. Once he caught a cold, and got a severe recurrence of his rheumatism in consequence. This was completely removed in three hypnotizings (twenty-four hours), and he was able to work more diligently than ever, in spite of his seventy-two years. Besides he was hypnotized only a few times for demonstration purposes in 1890. But he did not require any further anti-alcohol suggestions.

Report in January, 1891.—The alcoholism and the rheumatism have remained completely cured up to the present. However, he had been affected some time past by senile (gray) cataract of both eyes, and as this was progressing rapidly, an operation was considered necessary. This was undertaken by my colleague, Professor Haab, in 1890. The operation was performed in two stages: (1) Iridectomy and massage of the lens, for the purpose of hastening the ripening, and (2) extraction, carried out only in one eye. On both occasions the patient was hypnotized before the operation, and rendered anæsthetic by means of suggestion. He did not awaken during the time, and smoked his suggested pipe even while the iris was being cut into. At most, he only screwed up the corner of his mouth

while the iris on the opposite side was being dealt with. He stated afterwards that he had not felt anything of the operation, and that he had slept right through it. During the after-treatment in the hospital in my absence he had a little pain, but this was eased by suggestion.

Report in 1895.—The cure has been maintained. A recurrence of the rheumatism, which took place two years previously, had been cured in two sittings. The preparations for a big operation (rectal carcinoma) in hospital had upset him to such an extent that hypnosis became impossible. Chloroform had therefore to be used. He recovered from the operation, but a recurrence took place later. A second operation, for which the preparations were not perceptible, was successfully performed under hypnosis without chloroform. He died after this operation.

3. Miss L., a very capable workgirl, had suffered for about one and a half years from complete sleeplessness. All means had been tried unsuccessfully, and she was sensible enough to resist the temptation of accustoming herself to narcotics. She was handed over to me by one of my colleagues for out-patient treatment as a subject for demonstration in February, 1890.

Several hypnotic sittings were necessary to obtain a marked degree of hypnosis gradually, and to realize various suggestions. At first it was only in my presence that I succeeded in getting her to sleep spontaneously on taking a drink of water. I let her sleep for a considerable time (one hour), and in this way I was able to restore the normal night sleep thoroughly after about three weeks (from 9 P.M. till 6 A.M.). She was then discharged cured.

Early in January of 1891 she came to me of her own account, looking exceptionally well, to thank me, and to tell me how happy she was to be completely cured of her insomnia, and to have remained fit for work. She had suffered from a severe attack of typhoid fever in the summer of 1890, which was accompanied by high fever, and in which she had several relapses; she had almost been "given up" during this illness. She had again become sleepless during the fever, it is true, but normal good sleep had returned spontaneously in her convales-

cence. I mention this case especially for the benefit of those who argue that one only drives out the devil by Beelzebub when one substitutes hypnotic treatment for morphine treatment. These gentlemen can thus be shown that the analogy is inapplicable from two points of view, for neither an intoxication nor a habit is produced by suggestive treatment, and one simply restores the natural healthy sleep. However, "Il n'y a pire sourde que celui qui ne veut pas entendre." And therefore examples may be useful. Since then I have treated many similar cases with equally good results; three of these came under my care in the summer of 1905.

4. Mrs. F., a spontaneous somnambulist, born in 1833, had followed the calling of a fortune-teller since her fifteenth year. She had been punished by law in Germany for alleged swindling. She was married, and had a big family. One of her labors had taken place while she was in a somnambulic condition, and she had not felt anything of what was going on. She only awoke after the baby was born.

She had consultation hours, and the patients flocked to her. Since her youth she had fallen to sleep suddenly and spontaneously every day at nine and three o'clock, generally with a cry. The sleep lasted from a quarter to three-quarters of an hour, according to the number of patients who came to see her. During the sleep she spoke in a pathetic tone of voice. It is not she who speaks, but it is "the spirit of Ernest," which haunts her, and who lies buried in Basle. She was accused of deception on these grounds, and was sent to me in order that I might examine her.

I succeeded at once in placing her, during her spontaneous somnambulic sleep, by means of suggestion, under my control and under the influence of my suggestion. She was forced to obey the suggestions even post-hypnotically, in spite of the resistance of "the spirit of Ernest." She became anæsthetic. The reality of the somnambulism was undoubted; her physiognomy was completely transformed, and she was totally amnesic after awakening. I succeeded in hypnotizing her whenever I wished, and in removing the spontaneous attacks. Before this, experiments were carried out during one of these attacks. Patients

suffering from maladies the nature of which was well known to us were shown to her, and she was required to make a diagnosis and to determine the treatment. She spoke pathetically to the patients, calling them "my dear," and touched them with her hand, keeping her eyes closed. Her diagnoses were all wrong, for we avoided any words or signs which might have put her on the right track. Then Dr. Mercier, the second assistant, came into the room pretending to be lame, and allowed her to examine him. She diagnosed a "disease of the legs" (which was not present). It thus became clear that her diagnoses were based on the action of suggestion, produced by the phenomena in the patients, which she recognized by her senses. There was not a suspicion of clairvoyance to be detected. She knew how to gain pecuniary advantage out of everything, just as the majority of normal people do, and as many superstitious persons and even some insane persons also do. Still, it is a great mistake which the simulation theory makes to deduce from this that it was all simulation. It is well known that suggestions which are desired readily gain the upper hand over those which are not wanted. It is true that she stated that she would be pleased to be freed from her sleep. Her husband and her children were dissatisfied with this, and she herself obviously regretted that she had lost her means of making money more than she rejoiced that she was cured. I had, I must admit, promised her to restore her sleep if she wished it, but it returned of itself soon after her discharge, as was to be expected, since I was no longer present; and those more powerful factors, as well as the old-standing autosuggestion, soon gained the upper hand again.

I stated in my evidence that Mrs. F.'s somnambulic sleep was real, and not simulated, and on this she was acquitted. She had not been accused of quackery; she might have been punished for this offense. This case has been dealt with more minutely in the *Annals* of the Society of Experimental Psychology, and my evidence is added to the report.

I must emphasize that this person was hysterical. This will be found mostly to be the case in well-marked spontaneous somnambulists. The sleeping attacks have something of the

character of hysterical attacks. The convulsive phenomena, the cry, and the feeling of uneasiness, may be especially mentioned. The marked anæsthesia, the total amnesia, the convulsive disfigurement of the features, the confused, dazed expression on awakening, are all so very pronounced that one can exclude all possibility of malingering from these signs alone. Since spontaneous somnambulism is not often observed by medical men, and as it is of great interest for our subject, I considered that I ought to give the details. Another thing which seems to me to be of interest in this case is the second personality appearing in the somnambulic sleep, which became automatized, and one might say organized, gradually by habit, as a result of frequent repetitions during the course of a long life (a second ego, with second illumination of consciousness). The tone of voice, the quality of the voice, the physiognomy, the whole naïvely pathetic, insolent essence of the second personality, is absolutely different from the homely, quiet, collected, good-natured, but cunning and uneasy normal Mrs. F. In various attacks of sleep and during the consultations with patients, the same phrases and actions, together with the same associated general condition of the mind, are always repeated.

5. One of the female attendants of our asylum suffered for a long time from profuse, frequent menstruation, which set in every two to two and a half weeks. In 1888 I succeeded, by means of a few hypnoses, in reducing the menstruation to once a month, and to a duration of exactly three days. I suggested definitely and repeatedly that the menses would set in on the first or second of the month at seven o'clock in the morning, no matter whether the month has thirty-one, thirty, or twenty-eight days, partly for the purposes of experiment, and partly because I believed that the conception of a definite date would be more easily fixed in the brain than that of a cycle, recurring every four weeks. This female attendant (she was one of the most capable and trustworthy of all those employed by us, and controlled the sewing and tailoring work of the patients) remained in the asylum up to 1894. Since 1888—*i.e.,* for six years—this suggestion action was completely retained and fixed without a repetition of the suggestion. At times, however, the

period set in one day too soon (on the last day of the month), but the following period then appeared one day late, in compensation. The duration remained exactly three days. The matter was objectively controlled by the head attendant. The attendant in question got married in 1894, and left Zürich in consequence. However, when I saw her later, after she had become a mother, her menstruation had remained unaltered. This case appears to me to be especially interesting in view of the theory of menstruation and ovulation, because the result could be controlled for six years, and because one can deduce from it that ovulation must either accommodate itself to the menstruation and suggestion, or that it is absolutely independent of menstruation. It cannot be seriously argued that ovulation adapts itself accidentally and spontaneously to the artificial time of the calendar months, and even to leap-years.

Since then I have regulated the menstruation of two other attendants, who were much weakened by metrorrhagia (one of them suffered from mitral regurgitation), in the same way; the period set in just as punctually as in the first case, on the twelfth and on the first of the month respectively, and lasted for three days. The result was controlled in both cases up to the time when the individuals left the asylum. In 1903 I treated an educated lady suffering from profuse menstruation, with equally good results. The periods have remained regular on a certain day of the month, and last for three days, up to the present (two years).

6. The following case (among others) selected from the material of my hypnotic class should be given in this place: Mr. P., an educated business man, stated that he had formerly suffered from an ulcer of the stomach; a constriction of the stomach had resulted from this. In spite of a ravenous appetite, he could not digest anything. All his food remained in his stomach. He was exceedingly constipated, several days always elapsing between the motions. He could scarcely take any food. Every treatment that had been tried had been of no avail, and he felt that he could not stand it any longer. The constriction in the stomach had been detected by several doctors. Professor R., of X., had told him that the only thing

left for him was an operation (excision of the stomach), but that was not free from danger. He was instructed to go to Professor K. to have this carried out. He was afraid of the operation, and therefore begged me to try with suggestion. I would not promise anything, but said that there was no harm in trying, and that diagnoses were not always infallible. Although only hypotaxis could be obtained, the action was very marked. The motion was regulated at once (at first even diarrhœa was produced four times). All the gastric complaints ceased, and all forms of food were tolerated. The patient was cured after three or four sittings, and, as far as I am aware, has remained so to this day. Naturally, the operation was not carried out. One must deduce from this that at most a functional ectasia of the stomach had been present.

Report in 1902.—I received news not long ago from the patient, who stated that he had remained cured.

7. Patient E., aged thirty-eight years, suffering from asthma, complicated by emphysema and bronchitis. He had been ill since 1875. He was admitted into Eichhorst's medical clinic in 1888, with orthopnœa, forty-four respirations to the minute, etc. The lower limit of the lung was the seventh rib on the right side and the seventh intercostal space on the left side. The cardiac dullness was absent, and no apex beat could be felt. He had been constipated for five days. The hospital treatment consisted in pneumatic applications. The result was only transitory. Later on he got attacks every day. In spite of all internal remedies (he was treated with chloral, iodide of potassium, etc.), he became steadily worse.

He came to me on December 15, 1889. His condition was as stated above. Constipation had lasted from six to ten days. He looked very ill, wasted, and ashen. He could not sleep without chloral.

I hypnotized him on December 15th, 16th and 19th, and at first got him to do without the chloral, and obtained normal sleep, appetite, and a motion every second day. After this he was handed over to one of the students for further hypnotizing in the out-patients' department.

On February 15, 1890, the patient was completely cured,

and when seen five months later was still quite well. The limits of the lungs had receded to the sixth intercostal space. The apex beat of the heart could be distinctly felt, and the cardiac dullness had increased materially. His bowels were open daily. He looked well. No further attacks of asthma had taken place.

Toward the end of July, 1890, patient E. was taken with pleurisy and fever. This, however, was got rid of without any recurrence of the asthma occurring. The suggestive treatment passed successfully through this stringent test.

8. I should like to briefly mention two other cases of hallucinations, in part associated with delusions of persecutions, which were produced artificially by spirits, in the one case in a gentleman and in the other in a lady. In the case of the former more especially, the illness had assumed the type of paranoia. He believed in his spirits, as the Maid of Orleans believed in her ghosts, and even smashed lamps and crockery at their command. I hypnotized him in the presence of several patients, on whom I had previously experimented in his presence. Overcome by the impression he had received, he became somnambulic at once. In this way I conquered the "spirits," whom I "drove out," together with the hallucinations and the pseudo-paranoia. The lady had been cured in a similar manner before this. This sort of case is very instructive, showing, as it does, that spiritualism can produce a pseudo-paranoia on a suggestive basis, just as hysteria can.

Constipation and the Explanation of the Cure of the same by means of Suggestion.[1]—I should wish to place those disturbances of the body which are usually performed unconsciously, the results of which alone are conceived by us, but which come under the influence of the central nervous system, first among the therapeutic objects of suggestion. These functional disturbances, and the functions themselves as well, form, in my opinion, the most thankful field of suggestive therapy, whether they be produced sensorily—*i.e.*, psychopetally or psychocentrally—or whether they be produced as motor, vasomotor, or secretory processes—*i.e.*, psychofugally. One can include these disturbances among the neuroses; no real objec-

[1] Reprinted from the *Zeitschrift für Hypnotismus*, 1893.

tion can be raised to this. But to avoid imparting the false idea that they represent diseases of the peripheral nerves, it would perhaps be better to call them cerebral neuroses or encephaloses.

I have chosen habitual constipation as my example. No doubt certain cases exist in which local intestinal affections can produce constipation. But these are really very rare. Ordinary common habitual constipation is nothing more or less than a chronic "cerebral neurosis." Since the cure of this condition by suggestion has become recognized, this has been repeatedly admitted.[1] Let us first look at the facts of the case.

Apart from fermentative diarrhœa, catarrh, stricture of the gut, typhoid fever, and the like, we find first of all that both the frequency and the consistency of the motion vary enormously in healthy persons. Sometimes it is soft, sometimes it is formed and "normal," and sometimes it is hard. We may regard a daily formed stool as the normal condition.

Turning our attention first to the case of a normal, formed stool, passed once every day, we find that, although one can voluntarily hasten or retard the stool by means of abdominal pressing and of the action of the sphincters, this is only possible within certain limits, and that, as a rule, it is apt to be passed at a definite time of the day. This time of day varies in different persons, and in different epochs in the same person. However, we notice in general that when a person has accustomed himself to evacuate his bowels at a certain time of the day, the necessity of doing so is apt to make itself felt at this time. Perceptible peristaltic movements of the intestines, rumblings and the like, often precede this, and herald the desire to go to stool at the given time punctually. But one can frequently make another observation. If one voluntarily or compulsorily postpones the evacuation beyond the usual time, the desire to pass the motion mostly passes off after a relatively short time, provided that the fæcal accumulation is not too large. Not infrequently the desire is postponed till the same time on the following day in such cases. When this takes place the fæces

[1] See also Dr. Th. Dunin, "On Habitual Constipation." (*Berliner Klinik*, 1891, vol. xxxiv.)

will have become inspissated and harder in the meanwhile, and the motion can only be passed by heavy exertion of the abdominal pressure, sometimes accompanied by pain. In short, constipation is present.

These facts are more important than one would imagine at first. They prove that normal defæcation is subjected to the influence of central automatisms, and the latter in their turn are dependent on certain conceptions of time, generally remaining unconceived. They further prove that the longer one waits, the more difficult will be the work for the bowel and abdominal muscles. It is hardly necessary to point out that, apart from this, the accumulated fæcal masses act as stimuli, and thus produce the desire to pass a stool reflexly. Still, it should suffice for the present to mention that other factors take part in the action.

If we now consider the conditions other than those which we regard as strictly normal, we also find several important phenomena. Constipation is a very common symptom in certain psychoses, especially in melancholia. The same applies to hysteria, hypochondriasis, and other so-called "nervous diseases," which one does not usually classify among the psychoses for reasons of politeness and other considerations of this kind, but which are one and all, none the less, functional encephaloses. The inhibitory action of the innervation of the brain can also not be overlooked in these conditions. On the other hand, certain emotions, especially fear and expectation, notoriously act as stimuli in such a way that this has become proverbial. One also knows that the desire to go to stool does not infrequently present itself at times when one fears that it may (under certain awkward circumstances—*e.g.*, in former times, when there were no w.c.'s in trains), and passes off as soon as the "danger" is over, and one could satisfy the desire in peace and comfort.

Certain foods have the reputation of constipating, and others of rendering the motion easier or more fluid. I certainly must acknowledge that there is something in this, and that fruit, for example, generally produces a softer motion. However, if one takes the trouble to inquire more closely into the matter, one

meets with inexplicable contradictions, as is well known. The food which constipates one person purges another. The same articles of diet often enjoy opposite reputations with different sets of people. The same foodstuffs can produce opposite actions even in the same individual at different periods of his existence—*e.g.,* milk, coffee, etc.—and the person who is habitually constipated will not be helped, as a rule, by foods.

Practically the same may be said of the mode of life. Speaking generally, one says that a sedentary mode of life leads to constipation. But this is often produced on the other hand, by exercise and mountain climbing.

One thing is certain: the final cause of constipation is stagnation and inspissation of fæcal material in the large intestine, no matter how this is brought about. The desire to go to stool, acting as an antagonist to this stagnation, only exists as a sensation and an impulse. The sensation calls forth the impulse and the action, but it is in itself produced by something. This "something" may be a stimulus on the mucosa of the large intestine caused by fæcal masses. As we have seen, this can also be a conception, an unconceived associated process in the brain. In habitual constipation either the sensation itself—that is, the desire—is entirely absent, or it sets in too late or incompletely, or the desire is present, but cannot convert itself into sufficient movement to evacuate the fæcal material. In this case the muscular innervation is at fault. Both disturbances are frequently combined. In treating the condition, it is necessary to understand the causal conditions, as we shall see presently. But this is not so easy. One knows how many people suffer from constipation, and how severe and distressing this disorder may become; in many it makes life hardly worth living. Humanity is more benefited by the removal of such-like disturbances than it is by the diagnosis and treatment of many an incurable severe disease, such as apoplexy, general paralysis of the insane, and the like, against which the whole of the weight of our knowledge notoriously shows itself as being despairingly powerless.

The ordinary treatment of constipation consists of:

1. *Purgatives.*—These form the most common prescription,

but are both a mistaken idea and harmful. One person accustoms himself to rhubarb, another to podophyllin, and a third to salines. The dose has to be increased, the digestion becomes impaired, and the misery of the individual grows apace. The "intestine"—*i.e.*, the brain—accustoms itself to the mucous membrane stimulus and to the medicine, which irritates the intestinal secretion and peristalsis artificially. The reaction becomes more and more sluggish, and the bowel becomes more and more incapable of performing its functions without artificial assistance. One keeps on strengthening the pathological inclination, and one adds to this a pathological irritation or intoxication, the importance of which is overlooked. One makes the disorder worse instead of curing it.

2. *Enemata.*—These, at all events, do not produce changes in the mucous membrane, and do not possess a toxic action. The same may be said of glycerine suppositories. But, on the other hand, they accustom the intestine (the brain) to artificial assistance, just as purgatives do. The innervation of the peristalsis is increasingly diminished by it, and the inclination toward constipation becomes *pari passu* greater. However, we shall never be able to do entirely without these doubtful remedies. Their application is perfectly justified in transitory cases, but they are always very pernicious in habitual constipation.

3. There still remain the following to be mentioned: eating fruit, massage, baths, electrotherapy, exercise, and—one must not forget this—Lourdes water, pilgrimages, the laying on of the hands in institutes for the "treatment by prayer," Kneipp's treatment, homœopathy, and sun-baths.

There is no doubt that these means are all more rational and more successful than the first-named, for they embarrass the innervation of the intestine to a less extent, or not at all. However, they fail frequently enough, and when they do succeed, their action depends on suggestion. We had better consider the latter in its purer form.

Suggestive Treatment.—A young lady came to me, as she had heard that I had cured cases of constipation. She had suffered for years from this. For the last two years her suffering had become intolerable. She took rhubarb regularly, and

also used enemata, but in spite of all remedies, which were continuously increased, she only succeeded in obtaining one motion a week with difficulty. She had tried everything in vain. I hypnotized her in my demonstration course before the students. She went to sleep at once. Touching her abdomen through her dress, I then gave her the suggestion that her bowels would henceforth be stimulated by the action of the nervous system. I told her that there had only been a sluggishness of the bowels, and that this was now dispelled definitely and permanently by the regulating of the nervous apparatus. She would have a motion every second day at first. This would take place regularly early in the morning, on getting up, and would be spontaneous and independent of all artificial means. The desire to go to stool would make itself felt while she was dressing. The whole hypnosis did not last five minutes, and I then awakened her. She had become very markedly suggested already by seeing the results in the other patients. She returned to me after a week, and told me with great pleasure that she had had a motion without any assistance almost every day, early in the morning, since the hypnosis. She had not changed her mode of life (she had previously been inclined to ascribe her constipation to this), which was that of a seamstress. The suggestion had therefore been exceeded by the result. I hypnotized her once again, and suggested to her that she would have a daily motion, early in the morning, as punctually as a clock, and that the cure was complete; and this was so—at least, she has remained cured up to the present (for several months). In the same way I cured an educated man who consulted me early in 1890. He had suffered from severe constipation for eight years. I was only able to produce hypotaxis in him, but he has remained well up to the present (this was written in 1902).

I have treated a large number of similar cases with equal success, and my colleagues of the Nancy school have done the same. I do not intend to give the details of cases in this place, and have only quoted these simple cases as examples to show in which way, how easily and how rapidly, habitual constipation can usually be cured by means of suggestion in suggestible per-

sons. At times one meets with more difficulties, and some auto-suggestionable persons, especially hypochondriacs, so-called neurasthenics and the like, defy all endeavors.

What I am aiming at is to inquire more closely into the nature of habitual constipation, with the help of the facts gleaned, and also into the real mechanism of its cure.

There is no doubt that constipation is dependent on various things. Firstly, there is the sluggishness of the motor innervation of the rectum, or the absence of it. Secondly, there is the sluggishness of the peristalsis of the whole intestinal track, for, as is well known, fæces can stagnate high up as well. Thirdly, there is the faulty secretory activity of the intestinal mucosa, and, conversely, there is the increased absorption of fluid through the mucous membrane. Besides these, there are certain sensory stimuli, and the translation of the same into automatisms, which influence the motor innervation and secretion mentioned above. Among these one has to recognize the direct stimulation of the accumulated fæcal masses on the nerves in the intestinal mucosa, and unconceived, temporary, or other associations of conception. Lastly, there is the quality of the food ingested.

If we consider the facts mentioned without prejudice, the sluggishness of the innervation of the sympathetic, or the absence of stimuli which excite the same sufficiently and at the proper time, certainly appear to form by far the most important factor. We recognize that this sluggishness has a great tendency of acting like a snowball—*i.e.*, once it is present the fæces become increasingly inspissated, and defæcation becomes more and more difficult.

The success of suggestion demonstrates the correctness of my assertion very clearly. We throw a powerful wave of innervation by means of suggestion, starting from the brain along the path accustomed to the automatic sluggishness, and the result follows. In order to give it a definite shape, we tack on the suggestion of a daily regular repetition. In order that this spontaneous repetition of the necessary wave of innervation may be made easier for the nervous system—*i.e.*, for the brain—we associate this with a daily process which recurs regularly

at the same hour; this is usually on getting up in the morning, immediately after awakening, which is admittedly the best time for defæcation. This association of conception serves as a temporal landmark, and plays an important part, as such landmarks, generally speaking, do, in the whole mechanism of our memory. But we are not dealing with a conceived remembrance in this case. The suggestion acts on the automatisms of the organic memory. If one is successful in tacking on the automatic association sufficiently, and in fixing it, the wave of innervation follows each day at the suggested time in sufficient force to overcome all obstacles. The " disease " is then cured—and really cured. For what has been reinstated is the normal condition, through the normal living mechanism of the brain itself. This of itself has a natural tendency to be retained. How absolutely different this result is from a motion produced by an enema or by rhubarb! The latter strengthens the fatal suggestion of an illness in the brain by increasing the conception of the impossibility of a motion being able to take place without artificial means, and associates and fixes this conception more and more. The two are actually opposites.

How can we interpret the action of suggestion in this concrete case? How can we analyze it?

First, the patient is prepared. One gives him sanguine hope that he will be cured. Then one brings him into an atmosphere of cures resulting from suggestion, and his brain then becomes prepared, surrenders, and is persuaded—*i.e.,* consents from the first to allow itself to be dissociated, and not to offer any resistance. He feels himself prospectively influenced, and, in fact, beneficially influenced, and in this way all the forces working in opposition to the influence of the hypnotist become inhibited, and all those which act with it become strengthened. It is a very extraordinary condition, this condition of suggestibility, of belief, of enthusiasm, of subjection to a psychical influence. One can theorize as one likes about it, but one thing is certain, that all opposing psychical aggregate conditions, associations, conceptions, emotions of the will, or whatever one chooses to call the whole psychical dynamics in question, suddenly yield, becoming plastic and weak, and are pierced like butter. It is

the piercing of the resistances of unconceived automatisms, however, which appears to be particularly important. It does not matter whether this has its seat unrecognized in the cerebrum, or in the medulla, or in the spinal cord, or even in the sympathetic. There is no doubt about this, for it always yields the safest and most permanent results. If we modify or inhibit only a conceived associated process for the moment, the psychical (brain) activity of the patient can always find a thousand ways later on of reinstating it, of tacking it on again, of thinking about it, and thus of interfering with the result of the suggestion. In the case of unconceived automatisms, like defæcation and the innervation of the intestinal peristalsis, the brain activity cannot discover the path of association of the conception in its whole extent right up to the achieved result, in spite of any amount of ruminating after this. It is and remains unconceived in every one. One sees the result, which is inexplicable, and one is able to rejoice over it, and the action of suggestion holds the field more easily on this account.

I would explain the action of suggestion in the following manner: After having prepared the patient in the manner detailed above, I suggest sleep to him in order to dissociate him more completely. I then call forth the conception that I am doing something with the abdomen, by touching the abdomen with my open hand (if the suggestion does not succeed through the clothes, or if it does not succeed sufficiently, it can be strengthened by touching the naked abdominal walls). The reflex paths between the abdominal region and the brain are stimulated centripetally in this way. I then give the suggestion of the desire and of peristaltic movements. I can cause the result to take place at once (suggestion of a motion immediately after awakening, which answers very well) or can order it for some future time association. The mechanism is the same in both cases. I have concentrated the dissociated brain activity on an automatic functionating nervous apparatus. The moment is most important for the result. Next I call into existence the conception of the psychofugally carrying out of the act, of the desire, of the peristalsis, and of the defæcation. All

resistances are overcome; the activity in the one case is actually taking place, or, in the other case, is only being prepared, and the result is postponed till a later fixed time. I believe that the following are active in this process: The conception of defæcation and desire to go to stool, psychopetal (sensory) excitations issuing from the abdominal walls, psychofugal messages from the brain to the spinal cord, messages from the spinal cord to the intestinal sympathetic, and, lastly, messages produced by the direct innervation of the intestinal muscle, and possibly of the blood vessels and glands (the furtherance of the intestinal secretion). One frequently only obtains the desire at first. Then one has to repeat and vary the suggestions until the psychofugal activity has overcome all resistances right up to the intestinal muscle. It is advisable, in order to insure success, to state from the beginning that the first motion, which will have to remove the fæcal accumulation which has already become inspissated, will be a little difficult, but that from this time onward the accelerated peristalsis will prevent the stool from again becoming hardened in this way. A definite normal daily process of defæcation is achieved by means of this conception, which finds its way in the plastically dissociated brain required for the carrying out of the act, by way of hypoconceived and hitherto absolutely unrecognized automatic central apparatus.

One can gather from these facts that habitual constipation must be regarded as a pathological habit of the central nervous system. This habit can be favored or produced by all sorts of chance occurrences, inclinations, inherited dispositions, conditions of exhaustion, neuroses, psychoses, etc., and it harbors the nucleus for further growth in that the inspissation of the fæcal material which it produces reacts in its turn markedly on itself. At the same time, it is just as obvious that the usual treatment with enemata and purgatives is not only no good, but directly renders the condition worse.

Delius[1] reported on eighty-four cases of this kind of disturbance (chiefly constipation) which he had treated by sugges-

[1] Delius, "The Treatment of the Functional Disturbances of the Stool," etc. (*Die Heilkunde*, November, 1903.)

tion. Sixty-seven of them were cured, thirteen were improved, and four were unimproved. In thirty-two of the sixty-seven cured cases he was able to show that the cure had persisted for years. It is important to keep on emphasizing these facts, for one cannot make a greater mistake than to presume that the cure by means of suggestion is not of a lasting kind.

Our nervous system possesses the tendency of espousing many other similar pathological habits. Some of these are carried out entirely in the spheres of its activities which are unrecognized by our superconsciousness, and some are carried out in processes which are partly or wholly conceived by us. Enuresis nocturna and diurna, many of the so-called gastric catarrhs (nervous dyspepsia), many neuroses of various kinds, hysterical attacks, paralyses, pains, and anæsthesias, disturbances of menstruation, vaso-motor neuroses, *inter alia,* are undoubtedly examples of this. A number of cases of loss of appetite and of chlorosis, in which one ascribes a primary rôle to the " anæmia," are nothing more or less than this form of pathological auto-suggestions or morbid habits of the brain. One must, however, never forget that the pathological process, the nature of which one has recognized and explained in this way, is apt to have all sorts of other causes acting with or even producing the habit, which a skilled and prudent suggestive treatment will have to take into account. I repeat that among these there are chiefly the inherited disposition, ennervating conditions, psychical disturbances, violent emotions, injudicious mode of life, bad nutrition, etc. The hypnotist must seek for such cases in every individual case, and attempt to remove them as well by means of skillfully interposed suggestion and other means, if there are any indications for the latter.

CHAPTER IX

A CASE OF HYSTERICAL, PARTLY RETROGRESSIVE AMNESIA, WITH PROTRACTED SOMNAMBULISM, ANALYZED AND CURED BY SUGGESTION.[1]

Mr. N., aged thirty-two years, sought admission into my clinic of his own accord. He came of a good family, but inherited a marked taint of psychical abnormalities from his father. One of his brothers had a very bad memory.

Mr. N. himself had always been weakly, anæmic, and nervous, and suffered from headache and hyperæmic conditions of the head, which increased according to the nature of his supper, and which even led to bleeding from the ears (the ears were still red, and showed many degenerate capillaries).

Dr. Naef describes the case as follows:

"Mr. N. used to remain awake until late in the night when a boy of seven, as a result of changing his school. During the morning following a night when he had lain awake until two o'clock he came home, contrary to his custom, without any books, commenced to cry, and stated that the police wanted to arrest him. He said that he had stolen a large sum of money, and that he would only bring disgrace to his family. In connection with this he refused to take any food for two days, and avoided seeing every one. After a few days the storm passed off, his condition improved rapidly, and rest and change of air completely restored the patient to health. The patient can remember this episode fairly well, but he denies all knowledge of the self-accusation.

"Later on the patient served in the army, and felt well during this time, apart from a moody depression which made itself felt occasionally. At the age of twenty-seven he wounded

[1] Reproduced from the *Zeitschrift für Hypnotismus;* communicated by my former assistant, Dr. Max Naef, and reprinted here with his permission.

himself severely with a gun-shot, through carelessness, in America. The wound, a penetrating thorax wound, and its complications caused him to lie up for months. Since this occurrence our patient acquired a great horror of firearms. After his return to Europe he was much affected when, on visiting a medical friend, the latter was summoned to some one who had shot himself in the neighborhood. During the same evening the patient was seized with an attack of giddiness while he was sitting in a café, although he had not partaken of any alcohol. He was so unsteady that he had to be assisted home. When in bed at home he got a second severer attack of giddiness; in this he had the feeling that something was giving way, and complained of palpitation and difficult breathing. The attack ended with vomiting, consciousness never having been lost. The giddiness lasted for the whole of the next day, and then he got better.

" The patient was then admitted into a home for nervous patients, and was discharged from this place as considerably improved.

" However, all sorts of complaints soon reappeared, and our patient frequently suffered during the period which followed from headache, marked photophobia, from a feeling of general languor after meals, and from hyperæmia of the head, with simultaneously associated cold extremities.

" All this did not prevent Mr. N. during the following few years from fulfilling the duties which were imposed on him in the various positions which he held. Neither he nor those with whom he came into contact noticed any abnormality of his mental capabilities during this time. In his own account, which he wrote in response to our wish, he gave a detailed description of this portion of his life; he was able to name all the places which he had visited correctly, and to state what he had to do in each. The patient still remembered clearly that he stayed in A. in the autumn of 189—, in order to complete some studies which he had prematurely interrupted. The defect of memory commenced to appear about this time. He could still remember the beginning of the winter about as late as the month of November. But even this period seemed to him to be much

less distinct and more mixed than other periods of longer ago. The time which followed was completely dark for the patient, although he was not able to state a definite day from which this dated. His memory for the period was a perfect blank. He had not the slightest idea where he spent the winter or what he had been doing, and yet, as we shall see presently, his experiences during this time were of such an order that under normal circumstances they would be calculated to have remained firmly impressed on his memory for the whole of his life.

"The first reappearance of his memory took place about the beginning of June of the following year, according to the patient's own account and statements, and the reëstablishing of the memory was effected at all events just as gradually and confusedly as the suspension. At the time which he was able again to recall he was aboard an English steamer toward the end of a long sea-journey, the destination of which was Europe. It will be more instructive if I append his own very interesting account of this period. He writes: 'The reappearance of a very hazy memory, at all events to my mind, of where I was and what I was doing leads me on board an English steamer, the name of which I am unable to give. I have a vague recollection of having been on board ship for a long time, which corresponds with the distance which separates the Australian town Z., from Naples. I am definitely able to state that I left the ship at the last-named port. I do not think that I associated intimately with any one on board. The feeding and the class of persons who formed my fellow-passengers were obviously not brilliant, and therefore I think that I must have been traveling second class that time. I seem to remember distinctly that I was never spoken to in German during this time. I have only a very superficial knowledge of the English language. I was certainly far from well at the time of my journey back to Europe, for I remember having been repeatedly attacked by muscular convulsions affecting the back of the head and the neck, associated with simultaneous involuntary twitchings of the face, and especially of the lower jaw. When these occurred, irresistibly severely, I buried myself in my cabin, undoubtedly with the object of concealing this morbid condition.

I shared a cabin with an old Irishman, whom I scarcely ever understood when he spoke to me. As far as I can remember, it was very hot while I was on board. I read a great deal about this time, as I have reason to believe, but only cheap editions of English works. I am able to mention the names of some of them. Among them were books like "John Halifax, Gentleman," also some of Dickens' works—"Pickwick Papers," "Hard Times," etc. Whether I brought these books on board myself, or got them there, I am unable to say. I am also not able to remember with absolute certainty any port besides Naples at which we called, but now think that I have a faint recollection of Port Said. Still, this has only occurred to me since I looked up the route from Z. to Naples on the map. I fancy that I was only in Naples for a very short time, perhaps only for one day; at all events, I do not remember having spent the night at a hotel, but I do remember having obtained a boat-ticket for Genoa from a mercantile agent in the neighborhood of the harbor, with the assistance of a guide, who certainly did not speak German. I have no recollection of the date of my stay in Naples. . . .'

"From this time onward his memory became progressively clearer and more coherent. Mr. N. went on to describe his journey from Naples to Genoa, and mentioned a circumstance which struck him as being especially peculiar. He had a lot of trouble with his baggage, as he never knew how many boxes he actually had with him, and as he had packed so untidily, which was contrary to his usual habit, so that he often had to look for a long time before he could find a certain thing. Then he stayed for a time in Milan, and he continued his journey through the St. Gothard tunnel, and arrived in Zürich.

"Mr. N. then passed a few weeks in this place free from care, and in a happy frame of mind. He indulged in small, innocent amusements, but without entering into any social communication with acquaintances either personally or by letter, without giving a thought to the reason and object of his stay, and without realizing where he had come from. He led a very steady, regular life, did not associate with any one, and took his exercise when he went out for walks every day along the

same streets. His landlady described him as a quiet, respectable person, about whom she did not notice anything striking, apart from his very retiring disposition. It never occurred to him to communicate with his near relatives, with whom he had always been on affectionate terms.

"He continued to pass his time without a thought or care, separated from all the ties of his earlier life, obviously more or less under the dreamlike impression that he was enjoying a change of air, until he was recalled to himself by a strange coincidence. One day, while in a restaurant, his attention was accidentally attracted to a notice in a newspaper which awakened his interest very greatly. This note stated that a certain Mr. N. (the name was given in full), who had traveled to Australia some months before on official business, and who had arrived at his destination, had recently disappeared without leaving any traces of his movements behind. The notice went on to hazard the conjecture that Mr. N. had either become the victim of a crime, or that he had been suddenly seized by an illness, the most probable one being given as dengue fever, which was prevalent at that time in the neighborhood from which Mr. N. had disappeared.

"Shortly after a further reference to this episode appeared in the same paper, in which it was stated that Mr. N. had been seen at a certain port after his disappearance from the interior of Australia. In all probability, he had embarked in a steamer for Europe without having told a soul of his sudden project. The writer of the article suggested that the cause of this behavior would be that Mr. N. had obviously regretted having accepted his post, and that, having possibly been weakened and depressed by an illness, he had thought it best to break off all connection by going away secretly.

"The first of these newspaper articles exercised a powerful influence on our patient as soon as he had read it, for he suddenly became aware that the subject of the notice was no other than himself. Although the connection seemed to him to be incredible and incomprehensible, he was compelled to realize that the whole story dealt with him. His conviction about this was turned into absolute certainty by a passport

bearing his name which he discovered by chance in his pocket. It may be as well to quote Mr. N.'s own words about this highly important occurrence which broke into his life so suddenly. He writes as follows: 'In trying to remember the impression which the mention of my name in this connection made on me, I am inclined to believe that I regarded the whole matter as impossible at that time. I bought the newspaper at once, and kept on reading the unpleasant notice again and again. On awakening next day, I had completely forgotten all about the whole business, but as the newspaper lay on the table in full view, the occurrence rapidly came back to me. I had endeavored to get hold of all the German newspapers since the discovery of the first article, so that I might read of a contradiction or confirmation of the correctness of the matter. I did not believe that the first note was true until I read the second one on the following Tuesday. But on Sunday I began to entertain doubts about myself and my normal condition, and I endeavored seriously to consider my position. I further began to wonder why I was staying in Zürich without doing anything, and how I had got there.'

"The result of the confusion of suppositions and plans which took possession of our patient's brain in connection with this occurrence was the gradual conclusion that he would trust his peculiar fate and abnormal condition to a medical practitioner. This was undoubtedly the best course he could have followed. He therefore applied to my respected chief, Professor Forel, who advised him to consent to stay for a time in our asylum, so that his mental condition might be carefully observed and judged. He had applied to Professor Forel because he had once heard him deliver a lecture, and the remembrance of this gave him the idea of seeking help at his hands. The impression which Mr. N. made on Professor Forel on admission was that of a psychopathic patient whose nervous system was much affected. He had an absent-minded look, and his eyelids twitched frequently in a peculiar way. Mr. N. requested a private interview, and on being granted this, handed over the newspapers and also the passport, saying: 'That must be meant for me—there is no other possibility—but I do not know any-

thing about it,' and so on. He then added: 'No one will or can believe me. I am in a most desperate position; people will believe that I am a swindler.'

"Professor Forel determined the diagnosis already on the first day of his stay. This was total temporary amnesia, with confusion of thoughts, probably resulting from the attack of dengue fever mentioned in the paper, and complicated by a retrograde period of amnesia, without confusion. He was certified as suffering from this condition to the proper authorities. However, it was necessary to confirm or correct the diagnosis by further observation.

"The first task consisted in testing the patient's account as to its reliability, for this account at first appeared extraordinary even to an experienced psychiatrist. Further, it was necessary to attempt to fill in the gap in his memory for the eight months by the objective statements of third persons. On inquiry from all sorts of people and offices, one was able gradually to glean the following:

"Mr. N. had really applied himself to his studies, which he had interrupted for divers reasons for a long time in the autumn of 189—, in A. He had then applied for an appointment to a responsible official position in Australia, and had actually obtained the post. After all the necessary preparations had been made, he sailed for Australia in the beginning of the following year, and entered into his new position, and remained for several weeks in the port of Z. Not a single incident from this time could be elicited which would justify any doubt but that our patient's mental condition at that time was a perfectly normal one. Even those persons who came in contact with him almost daily were not aware of any circumstance which would lend credence to the supposition that the reverse was the case. In his correspondence with his relatives not a single peculiar point could be discovered. He wrote a letter home fairly regularly once a week during his journey out and during the first period of his stay in Australia, but these letters did not contain, either in form or context, anything suspicious. (We have read through this correspondence ourselves, and found that it was sincere, affectionate, and particularly nice

in all respects.) This correspondence suddenly ended on May 6th, and from that time his relatives did not receive any news as to his movements. In his last letter from Z. he stated that he would undertake an official journey inland within a few days, and as a matter of fact Mr. N., according to the official report, set out on his journey in good health on the evening of May 6th, having carried out his obligations in a perfectly correct manner, leaving his accounts, etc., in strict order.

"We have it on excellent authority that shortly after his arrival in the town O., in the interior of Australia, he complained of being unwell, consulted two doctors, and on their advice kept to his room for a few days. The doctors stated that he was suffering from a mild attack of fever, sleeplessness, and marked depression, in consequence of overexertion of the brain. Mr. N. made up his mind, consequently, to return to the coast as early as the sixteenth of the month, and in connection with this he stated that he intended to stop them from sending on his letters from Z. by telegram. This telegram, however, was never sent, neither did Mr. N. communicate with O. on his arrival at the coast, as he had promised before he started off. From the moment when he left the railway station in O. on his way to the coast, nearly all traces of Mr. N. were lost until he turned up in Zürich. We have only been able to pick up a very few facts of the time which elapsed. Among these there is the fact that the patient was seen and recognized at the station of the Australian port L. by a lady with whom he had often spoken during his passage out, and also during the time in which the steamer lay in the harbor of the same port, two months before. The lady was going to bow to him, but he turned away from her, and went off as if he did not recognize her. Lastly, it was discovered that a passenger answering to the description of Mr. N. embarked on May 22d on the steamer *Oroya* on the return journey from L. to Naples, and that the name entered on the ship's list was Corona.

"That is all that we could learn of the doings of Mr. N. during the time in question. We now come to the observations which were made on the patient in the Burghoelzli Asylum.

"At first the patient, who was bodily healthy, in spite of

being of a somewhat weakly build, was in a distinctly depressed mood. He was unhappy, puzzled about his position, which he did not yet fully appreciate. The look of his deep-set eyes was rather piercing, and this lent a gloomy expression to his whole physiognomy. Apart from this, one noticed extremely rapid twitchings of the eyelids, followed by a partial closure of the same. This occurred especially when he was talking. He slept badly; as a rule, he lay awake for a long time, and in spite of this, awoke early in the morning. He suffered frequently from nightmare. After passing such a night he felt as if he had been beaten all over. He occupied himself diligently and ardently with his person and his bodily condition, often spoke of all sorts of mild pains and abnormal sensations—*e.g.*, pains in the neck, which made it impossible for him to wear a high collar, and also prevented him from letting his hair grow at all long. Mental work caused the patient a great effort—*e.g.*, he had to interrupt the writing of his personal history several times, and when it was finished he was much exhausted. In the same way, letter-writing was only carried out with great difficulty. When doing this he sweated freely, even in cool weather, although he did not sweat easily as a rule. He frequently made mistakes, and often corrected what he had written wrongly again. He complained that when reading he had frequently to read the same words over and over again before he understood what he was reading about, and also that reading tired him, as he constantly found himself missing a line.

"At first a suggestive treatment was undertaken, in order to improve Mr. N.'s general psychical condition. The first hypnosis was carried out in the presence of several other patients who had been hypnotized first. As our patient's turn was approaching he became extremely excited, was seized with a sensation of great fear, and also with palpitation, and began to get jerky, hysterical convulsions. He soon recovered, in response to energetic suggestions, and to treating the attack as if it were a mere nothing, which would soon pass over, and then the hypnosis was conducted quite smoothly. The patient proved himself to be accessible to suggestion, and was easily brought into the hypotactic stage, with beginning amnesia in

the first sitting. The suggestions which were given at first dealt with improving his sleep, removing all his minor complaints, and replacing his depressed mood by a collected and contented one. In this the result was striking. His sleep became longer and quieter, his mood became more composed, even if it did remain somewhat unstable. He acknowledged the beneficial influence of each hypnosis himself. He took an active part in conversations from this time onward, was energetic in going for walks or bicycle rides in the neighborhood, gained confidence in himself again, and looked into the future full of hope.

" The condition of his memory naturally absorbed our special interest. The memory for the present and for recent times could not be considered good, but could scarcely be regarded as being morbidly changed. Mr. N. presented the picture of a person who, in ordinary life, would be styled ' forgetful,' such as one meets with in almost every social sphere. For example, he forgot to fulfill a commission, which he had been requested to carry out immediately, for several days; he failed to recognize a shop again after a short time, because the window-blinds were pulled down to keep off the sun; he often left parcels in shops, and he misplaced things frequently, and had great difficulty in finding them again. His memory seemed to be specially imperfect for names of people. Mr. N. was quite conscious of this weakness, and therefore wrote down important things at once, to remind himself of them; but he obviously did not trust his memory as far as it could be trusted, since he lost much of his self-confidence as the result of the disclosure of his memorial defect.

" Next, great interest was evinced in an investigation to see if some impression or other had remained from the intermediate period between the time when his memory had gradually been lost and that when it returned. It was hoped that some such impression might be spontaneously reproduced, and that the memory might partly or wholly be reinstated in connection with this. It was therefore intentional that suggestion was not applied in this direction at first. The following was elicited: On being asked about the name of the ship on board which he

had traveled home to Europe, Mr. N. thought that it was *Orotava,* but this was only mentioned after he had been assisted with the first letters of the name. On mentioning the real name *Oroya* to him, he did not appear to recognize it. The patient had mentioned the name of a steamship *Orotava* in a letter which he had written during the time when he was quite well as being the name of the ship which would carry the letter from Australia home. The memorial impression of the word *Orotava* must, therefore, have been preserved in his brain, but must have been falsely associated on its turning up without being connected with any other impression, and thus would be substituted for the word *Oroya,* which certainly has a similar sound.

" Some days later the patient was visited by his parents, who found their son absolutely unchanged in himself. On being reminded by them of the conclusions of his studies in A., of the applications for his new post, and of the preparations for his sea-trip, he failed to recognize anything. His parents further brought the letters with them which the patient had written to them during his journey and during the early part of his residence in Australia. Mr. N. recognized his own handwriting in them, it is true; but for the rest they seemed to him to be something quite new and unknown. One of these letters was then read aloud to him, in which he described minutely his rooms in Z.; this, too, met with a negative result. The rest of the letters were kept from him for the time, so that the remembrance of what he read and the memories of what he had actually experienced, which might chance to make their appearance, should not be hopelessly confused. Besides, he himself requested that this should be done, for these letters excited and confused him.

" By a lucky chance, a certain Mr. D., from Australia, who had frequently met our patient in Z., was staying in Zürich at this time for the benefit of his health. Both doctor and patient looked forward to the visit of this gentleman, whom the patient had not known before he went to Australia, with equal interest. Shortly before, Mr. N. remarked, on being asked, that he could not remember the gentleman at all, nor yet form any picture of him. He, however, believed that he knew that some

gentleman or other had two children, and the name of one of them was a very striking one, probably Achilles. This might be the gentleman. Mr. D. greeted the patient as an old acquaintance, reminded him of this and that occurrence in Z., and of the time they had spent together, while not only the personality of Mr. D., but also all that he said, were absolutely strange and new to the patient. He felt very awkward in his presence, as if he were sitting on hot bricks. On the other hand, it turned out that Mr. D. actually did have two children, and that one of them was called Alarich, but not Achilles. But there was not the least agreement between the conception which the patient attempted to call forth about the ages, height, and appearance of the children and Mr. D.'s actual descriptions. Mr. D. assured us that as long as he had had the opportunity of observing him in Z.—that is, until his departure for the interior—the patient had always created a perfectly normal impression on him, not only in his speech, but also in his dealings.

" Shortly before a second visit the name of a certain Mr. R. suddenly occurred to the patient, and as he did not remember ever having had anything to do with a person of this name, he concluded that the knowledge of his name must belong to the Australian period which was lacking in his memory. He was unable to form any idea as to the appearance or position of this gentleman. On inquiring of Mr. D., one learned that R. was the name of a certain person who must have been connected with our patient in business in Australia.

" The larger proportion of his property, and obviously all those things which he had got shortly before his departure or in Australia, were new and unfamiliar things to the patient. He did not know how he had become possessed of them, but was even astonished at the appearance and quality of his articles of clothing. Even the finding of the visiting-card of an English stranger, presumably an acquaintance on board ship, and a sheet of note-paper bearing the name of the steamer by which he had sailed to Australia, did not assist him in awakening a wider circle of impressions of memory. The same also applies to his own visiting-card, on which the post he held in Australia was attached to his name. He regarded all these proofs of an

epoch which had passed out of his consciousness with visible astonishment.

"The following episode is curious and very interesting. In it Mr. N. succeeded in reawakening a tiny portion of his lost recollections. It struck him, while he was riding on the electric trams, which travel very rapidly in this place, but which make a great deal of noise, that he experienced a curious sensation, and that he must have been in a similar tram before in his life, which had traveled just as quickly, and which made an absolutely similar vibrating noise. But he was sure that the tram of which he was thinking did not have overhead wires, but derived its electric current from a live rail below the ground. There was not a single tram-line of this kind in any of the towns which he could remember, and therefore he had to come to the conclusion that he was dealing on this occasion with a recollection from his stay in Z.

"Since it appeared to be quite hopeless to wait for any further spontaneous filling in of the defects of the memory, an attempt was made to deal with the amnesia in the following hypnoses by means of suggestion. For this purpose the episode of the electric tram, mentioned above, was used as an association. Mr. N. was subjected to the suggestion that he was seated in a car of the said tramway, that he was able to recall all the details again, and also to remember the passengers traveling with him in the car. One was actually able to record a result in this, inasmuch as the patient was capable during the hypnosis of describing the construction of the car and the distribution of the seats, both of which differed greatly from that of the cars in this town. On being asked which route the tramway followed, he cried out, 'Uphill, uphill!' several times. He was only able to say of the passengers in the car that they had thinner faces than the inhabitants of this part of the world. The patient made a little sketch of the construction of the tram-cars on awakening from the hypnosis. On inquiring of Mr. D., we learned that Mr. N. had actually ridden daily in the tram-cars, that the route really went uphill, and that the arrangements were certainly of the type which was shown by his account.

"Lastly, it must be stated that the patient assured us very definitely twice or three times in the morning that he had dreamed that he was in Australia, and that he had spoken to various persons there. However, all the details had entirely disappeared in the meanwhile, so that one could not gain any further associations from this.

"After the attempt to awaken the memory by means of the forgotten episode had only been followed by a very slight result, it appeared for some time as if the case would not be accessible to a continued hypnotic treatment. Professor Forel began to give up all hope of restoring the memory for the amnesic period after some weeks had passed without any progress having been made. But before the observations were discontinued he got the idea of choosing the last-remembered time of Mr. N.'s stay in A. as the starting-point of the suggestion instead of the stay in Australia. This change in method brought with it an unexpected result. During several hypnoses, which one was gradually able to render deeper and to induce more rapidly, the period into which he was now required to transfer himself was sketched out to him in outline progressing consecutively, and it was suggested to him that he would remember all the details of this period exactly at once, and after he had awakened. After the patient had related what he knew afresh, a second hypnosis was frequently induced at once, and in this the suggestion was given to continue from that point which had been reached in the previous hypnosis.

"The first result consisted in Mr. N. remembering that during the latter part of his stay in A. he no longer attended his college regularly, but had devoted himself instead to cycling. In response to the suggestion that he would remember all that had taken place prior to his appointment, the name of a certain official suddenly occurred to him (we can call him Bernhard), and this was soon followed by an exact description of his appearance and clothing. In connection with this, Mr. N. recollected that he had paid this gentleman several visits, and that it was through him that the preliminaries had been gone through. After the next hypnosis it suddenly occurred to the patient that he had undertaken a journey to the capital shortly after Christ-

mas, but he was not able to give any account of his stay there. It was only after the following sitting that he was able to mention the name of the hotel where he had put up in response to a corresponding suggestion; he also named the street in which the hotel was placed, the duration of his stay, and the business transacted with the official board. Then he gradually gained a clear remembrance of the town, which he had never visited before. The remembrances regained in this way never extended beyond the time which had been limited by the suggestion given. When beginning his account the impressions of memory never appeared to be very distinct, and Mr. N. generally began with an ' I believe,' or ' It seems to me as if.' It was only in the course of the following sittings that the pictures gained in clearness, and united themselves to form a consecutive story. The patient further succeeded in recalling to mind his journey back to A., and the preparations for his journey, which were then beginning. In connection with this, first of all it occurred to him that he had ordered two dozen shirts and eighteen pairs of pants; then followed the short run down to the port of embarkation, and he also remembered having paid a visit on his way. He was a little doubtful as to the actual recollection of the port, since he had stayed there a few times previously. The suggestion was now given to the patient that his memory for the whole sea-trip would also be restored to him, and this also succeeded in the course of a few fresh hypnoses, the procedure being always as has already been described. At first he suddenly recollected the names of the captain and of the ship's doctor, then he remembered some of his fellow-passengers, and the arrangements and life on board. He remembered that they had passed through the Suez Canal during the night, and that it had taken an unexpectedly long time. He was able to recall calling in at Aden extremely clearly; he was particularly struck by seeing the inhabitants decked in white turbans, and by seeing camels lying on the shore. In connection with this came the remembrance of a period of great heat, and then the calling in at Colombo (Ceylon). He first related about the fertile vegetation of this island, and about a little trip which he made into the interior of Ceylon, but was somewhat hazy

as to the destination of this trip. The reawakening of the recollection of landing in Australia, and of the early period of his stay in Z., offered greater difficulties. Still, after repeated hypnoses one succeeded in reëstablishing the impressions of the various ports at which they called, among which was the port of L. At first the patient was only able to say with regard to Z. that it must have been very dry there, and that the vegetation was largely comprised of eucalyptus trees and coniferæ. To begin with, he stated that he did not recollect anything about the town itself. Then the recollection of the Botanical Gardens suddenly came back to him, and also of various trips which he made into the surrounding country. He spoke of his landlady by a certain name, which he had remembered some time before, but which he could never associate with any definite person. He then recalled his lodgings and his club, where he frequently went, and in this way he said, after a time, that he was again feeling quite at home in Z. He also remembered Mr. D. and his family.

" The hypnotic treatment had to be interrupted for a time at this stage, as the patient was suddenly seized by an attack of pneumonia. The illness ran its usual course, but weakened the patient considerably. As soon as he had convalesced sufficiently, and it was thought that he was again suitable for suggestion, the hypnosis was started afresh. In this certain remains of the penumonia, which we did not regard as being due to organic causes, were first dealt with. We succeeded soon in getting his breathing normal—as this had been strikingly rapid and dyspnœic, in spite of the fact that the pneumonic changes had resolved and had been completely absorbed—in removing the pains which he felt all over his chest (once the pains suddenly changed to the opposite side in the region of the old shot-wound), and in the banishing loss of appetite and sleep. Apart from this we continued to work at the awakening of the memories as before.

" The suggestions which were given at first consisted in telling the patient that he remembered his whole residence in Z. absolutely clearly, and that he also remembered his journey into the interior to O. The result was that he recalled various

social functions later on which he had taken part in, and at which he had experienced some difficulty in drinking champagne and the like as the others did. Apart from this the name of the hotel in O. occurred to him, where he had arrived at, and where he had stayed for some time, but this remained for the time being without any association of other occurrences. It was only after the next hypnosis that the remembrance of the journey to O. came back to him. Mr. N. then remembered that he had accomplished the thirty-six-hour journey in one stretch, and described the country as being in part barren and in part hilly, and the vegetation as being monotonous, consisting of tree-ferns and the like. He had become quite clear about the town of Z. by this time, and produced a vivid description of its position and of the traffic in the town. A new phenomenon which followed this hypnosis was noted, and this consisted in the capability on the part of the patient of reproducing the results of the observations which he had made in Australia. He related in this way several things about the political and economical institutions of the country, about the civil administration of the towns, and about the scarcity of workingmen in the country; he also told of the regulations which rendered the immigration of Chinese difficult, and in connection with this it suddenly occurred to him that there were a number of such persons on board the steamer in which he had sailed to Australia, and that the Chinese went about in Z. with short hair, and for this reason did not attract so much attention. Mr. N. further recollected several incidents of his stay in O. after this same hypnosis. On his arrival a prolonged drought was taking place, and in consequence the dust lay foot deep in the streets, and many of the cattle had died. He also recollected various persons in O. with whom he had business relations. Among these was Mr. R., whose name, as has already been stated, had occurred to him a long time before, and with whom, as he now recollected, he had to transact some unpleasant business for having attempted to place some obstacles in the way in connection with his mission. The patient still became excited on relating this episode. He was further able to remember that he had felt unwell soon after he arrived in O., and had changed his hotel

room in consequence. He had gone to an English doctor, whose name began with a B, complaining of fever, giddiness, and palpitation, and the doctor had visited him later in his hotel. As the memory failed on giving the last few details, a further hypnosis was induced, and the patient was suggested that he would now remember all the minute incidents of his illness in O. more clearly. It then occurred to him that a second medical practitioner, a German, had also been called in, and that they had given him a sleeping-draught. His temperature was not taken. Apart from the doctors, only a waiter had come into his room occasionally. The two doctors had given him advice which differed: the one told him to return to the coast, and remain there until he had completely recovered; the other said that he ought to stay in O., and wait until he was quite well again before he traveled. He was quite incapable of saying which advice he followed, and what he had done then.

"The suggestion, which was given him on the following day, that he would now remember the minute details of his departure from O. and his return to Z., at first remained without result. It was only on repeating this on the following day that some progress was made. He was then able to relate that on the evening of his departure his money had been restored to him at his request, and that the gentleman who carried this out, accompanied him to the station on the following day. Mr. N. was perfectly capable of remembering his whole journey and the aims of his activities in Australia at this time (at the time of his departure from O.), in spite of the fever. He was quite certain of this, and this is a very important fact. He remembered then having commenced his return journey by train to Z., and having obviously been half asleep in the railway compartment. He knew nothing whatsoever of his arrival in Z.

"I have discussed the manner in which the latter remembrances were recalled to his consciousness very fully for good reasons. As we shall see presently, the exact knowledge of the occurrences taking place about this time forms an important landmark for a correct interpretation of the whole case.

"We then attempted to recall to the patient's memory the end of this journey to Z., the arrival there, and the circum-

stances under which he embarked for Europe, in repeated hypnoses. These endeavors, however, failed to elicit any result, and the patient was quite incapable of remembering a single fact about the commencement of the journey from O. to Z.

"But a result could be noted again when Professor Forel connected the suggestions to the period, which the patient had spontaneously retained in his memory, thus carrying out a method corresponding to the one which had led to favorable results before. This time was the end of his passage on board the *Oroya.* The suggestions therefore took the shape of declaring that Mr. N. would now remember the first part of his voyage homeward, and then the embarking, and lastly the reasons which impelled him to take this step. The patient was consequently able to relate a number of details of what he experienced on his voyage home. He stated that, unlike the majority of the other passengers, he did not land at Colombo, and that an English sergeant, with his wife and children, had come on board at this place. He was able to remember a large number of details respecting the life on board the *Oroya;* one little girl had taken his fancy greatly: he had often played with her and had carried her about. Apart from this, the life on the steamer was not particularly congenial to him, and he had therefore not responded to the invitation to take part in various amusements. He remembered very vividly two deaths having taken place when they were in the open sea, and also the burials at sea. He occupied himself while he was on board by eating, sleeping, reading and walking about. In this way he only lived for the present, knowing, as he now believed, that the destination of his journey was to be Europe, but without caring about what had preceded or what was to follow. The remembrance of his departure from Z., of the embarkation in L., and of the first part of his voyage, had still not been recalled.

"A number of hypnoses, in which the attempt was made to fill up the defects still remaining in his memory (these were by this time comparatively small), failed for the time being. The patient did produce a whole number of new remembrances, which, however, he had to refer to the time of his voyage to Australia. Then all of a sudden the recollection of a long rail-

way journey by night suddenly made its appearance, albeit indistinctly. This journey was to have brought him from Z. to the port of embarkation, L., and the patient represented it as being in uninterrupted connection with the journey from O. to Z., which he now remembered again. In connection with this he had a misty impression that he must have put up at a small second-class inn in L. He was again hypnotized immediately, and given the suggestion that he would recall all about this inn clearly, and also his whole stay in L. up to the time of going on board. He then became capable of describing the said inn in detail; he described the house as a low-class beer-house, and was quite disgusted with himself for having chosen such bad lodgings, for he certainly must have had enough money with him. The name of the inn was a three-syllabled one; it was situated close to the station, and his room was so small that there was not enough room for all his luggage to be brought in. During a further hypnosis the patient was given the suggestion that the further details concerning his stay in L. would occur to him during the course of the day, and that he would also have a clear idea about embarking. On the following morning Mr. N. reported that the name of the street in which the hotel was situated had occurred to him; the name of the inn began with an 'M,' and was followed by an 'o' or an 'a'; the word was the name of the proprietor, but he was not able to call the name completely to mind. After the next hypnosis, in which the suggestions were repeated, Mr. N. related that he had kept to his room during the daytime as a rule, and only went out toward evening. He had not thought much during this time, and was only waiting for the arrival of the next ship. The weather was disagreeably cold at this time. He now obtained the feeling that he had not then realized that he had already been in L. previously (on his voyage out). In response to the suggestion that he would again recall the arrangements in the harbor and the embarkation, these recollections also returned to him fairly clearly. Mr. N. then described the landing-stage; remembered that the train had brought him right up to the ship's side, which was ready for departure, that there was another ship lying alongside, which he saw again in Colombo;

and that there was a large crowd of people on the quay. It now occurred to him that the departure for another continent had not made the least impression on him on this occasion, as it had always done on previous journeys. He then called attention to the fact himself that it was chiefly the time when he was booking his passage which he could not remember. Even this recollection was produced in response to definite suggestions pertaining to this point, and Mr. N. then named the street in which the agent lived, and also stated the price of his ticket exactly. He was not able to remember giving a wrong name, but believed that this must have arisen through a misunderstanding on the part of the English stewards, who did not understand what he had said.

"On the following day we were successful at last in filling up the remaining gaps still persisting in the memory of the time just mentioned during a number of hypnoses following one another, always in response to suitable suggestions. The patient gave the following consecutive account: He had practically not slept a wink during the time of his bodily illness in O. He had then taken a first-class ticket to Z., being quite aware of what he was doing. He fully intended waiting till he had completely recovered in Z., where he had his quarters, and then returning to O. to continue his business. The railway journey had taken a long time, and had lasted all night. His compartment at times was full of passengers, and at times was fairly empty, so that he was able to make himself comfortable, and he had fallen to sleep several times. Having arrived in Z. in the forenoon, he at once booked to L., but left the station, where there were no waiting-rooms or refreshment-rooms in which one could sit down, and engaged a room in a small inn in the vicinity of the station. Here he took some refreshment, and went to sleep for some hours. It never occurred to him to go to his quarters, or even that he possessed them, nor that he had ever been in Z. before, and that he had a lot of acquaintances there. He then made a few small purchases—*e.g.,* he bought a comb—and traveled in the evening to L. with the ticket which he had taken in the morning. He could not remember any reason for having left Z. again, but

believed that he had had the feeling of being a stranger in the place, and of not belonging to it, and he had therefore seized the first opportunity of traveling on. On arriving in L., he made his way into the nearest very primitive inn, as he had done in Z., and as he had already related to us. He now remembered the town of L. exactly; he had stayed there for some days, had walked through the same streets every day, had bought his ticket for the passage to Europe, as has been stated above, and then awaited the arrival of the steamer. The town of L. appeared to him to be entirely strange, and he had to inquire his way about, although, as he was now aware, he had actually spent a few days there on his way out. On this occasion also, he was not conscious of having stayed at the place a few weeks previously, and the idea never occurred to him to look up any of his acquaintances. He could not remember having met a lady at the station, as had been described by a third person, but believed that if this were a fact he had simply not recognized the lady again. He was again able to recollect the circumstances clearly concerning his embarking: he had driven in a cab from his hotel to the station, a distance of about ten minutes' drive, and had then traveled right up to the ship's side by train. He was also incapable of ascribing any reason for going on board ship, and could only state that he had had the desire of getting out of Australia as quickly as possible, as he felt quite out of place there. He had been perfectly aware that he was in Australia, but did not know how he had got there, and that he had any business there, or what the nature of that business was."

This extremely instructive and curious case does not need much comment. Mr. N. is absolutely trustworthy, and, apart from this, many of his statements were confirmed by third persons.

From the type of the remembrances of the non-retrograde portion of the amnesia—*i.e.*, of the return journey from O. by way of Z. and L. to Naples and Zürich—it appears that he was in a condition of dissociated, somnambulic confusion of thoughts during the whole of the time. He must have lived without any thought of the future, and have forgotten the past

day by day. The remembrances of these events reappeared independently of any real connection with one another. They were dreamily vague, and were accompanied by marked changes of emotion. He became so clear as to the state of affairs that he told me that he now realized that if he had not had plenty of money with him he would have died in misery in L. He was lucky in having booked his passage to Europe. On the other hand, the remembrances of the retrograde portion of the amnesia (the journey out) were normally associated.

This case is a mine of wealth for the mechanism of the memory and for its analysis. The amnesia remained cured. I must beg my readers to consider the case especially in the light of my views on consciousness.

CHAPTER X

A CASE OF DOUBLE CONSCIOUSNESS

M. Z., an hysterical person who was fond of adventure and of a free life, was hypnotized in a university town by some students for fun, and discovered that she was an "excellent medium." She then went to Paris, and first fell into the hands of the spiritualists there, and subsequently into the hands of the doctors of the Charcot school in the Parisian hospitals. The spiritualists and telepaths discovered that she was a clairvoyant who could foretell the future, and who could presumably divulge what persons were doing at a great distance. She was only used as an object for demonstration in accordance with the pattern of Charcot's hysterics in the hospitals, and was declared to be incurable. In the meantime she was used as a telepathic wonder by impressarios, and earned large sums of money on the stage, which she spent as fast as she got it.

As a result of this systematic abuse of her hysterical somnambulism, the latter continued to develop spontaneously. She was subject to, first, spontaneous somnambulic-hysterical attacks, chiefly during the night, which at times lasted for two or three days, and when she awakened she did not have any idea of what she had been doing while in this condition (1). She jumped out of bed, climbed on the window-sills, roofs, and railings like a monkey, but never lost her balance. Secondly, she was subject to spontaneous hysterical (hystero-epileptic) attacks besides (2). In these she suddenly fell down unconscious, tore her hair and clothes, scratched herself, and then got up, climbed, and so on.

Once she lost her senses suddenly during a conversation in the street, and awakening three days later, took up the thread of her thoughts at the same place where they had been broken

off without knowing what she had done during the three days. I shall return to this "three days' wandering" later. The doctors were never able to influence her hysterical attacks (2). Let me call her usual waking condition M. Z., and her somnambulic condition F. L.

As a result of the continued abuse of her brain on the part of the spiritualists and of the hospital doctors who hanker after the supernatural (I will not express my opinion about this behavior), M. Z. got increasingly nervous, moody, irritable, and on account of her hysterical crises (1 and 2) became less and less capable of earning a living. She returned to her home, and was handed over to me for treatment.

She was a slender little thing, about thirty years of age, with a penetrating look, which became fixed easily, was extremely moody and obstinate, possessed the character of a gypsy, being driven by the impulses of the moment, but was very intelligent withal. She had undertaken all sorts of things, but had not done anything thoroughly, and had acquired a peculiar form of half-education. She liked her free Parisian life beyond all things, was very skillful at certain kinds of work, but was not persevering, and could be either very simple or very exacting, according to circumstances. It was difficult to persuade her to submit to suggestive treatment, as she was of opinion that it would be of no avail. I had first to explain to her that this was quite different from the hypnosis of the Salpêtrière in Paris.

I succeeded in putting her into a condition of somnambulism at once and commenced a conversation with her, suggesting especially that the somnambulism and the hysterical attacks were cured. However, it soon became clear that a second personality (I call this F. L.) had developed during the somnambulic condition. F. L. spoke of herself in the third person, and knew a number of things of which M. Z. was unaware. F. L. was an artist, loved the moon passionately and felt herself drawn toward her at night-time in consequence. F. L. was obviously sexually perverted, and had desires for her own sex, while M. Z. was relatively normal sexually only showing slight perverse inclinations (she was fond of biting her lover until

she drew blood). I succeeded in finding out by means of a few repeated questions at all events, in part, what she had done in Paris during the three days which had disappeared out of M. Z.'s memory. She answered me, however, hesitatingly and with difficulty. Like Mr. N. (see Dr. Naef's case), she was only able to re-associate single situations of her somnambulic condition with difficulty. In this the nature of dreamlike dissociation in thinking was illustrated afresh. She had slept with " Anna T." in one bed, and had carried out lesbian intercourse with her; she had been in the Quartier Latin in doubtful society, then she had called in at the flower-painter Durand's in C. Street, and had painted some flowers there, etc. She only admitted the lesbian intercourse hesitatingly, but with ecstatic looks and with euphoristic enthusiasm.

When I declared very definitely to her then that M. Z. and F. L. were one and the same person, and that all that F. L. did was stupid morbid nonsense, and when I told her that she must sleep quietly at night-time, and that I forbade F. L. to wander about, she became very excited, offered opposition, spoke of her beloved moon, and so on. I then attempted to suggest to F. L. (the somnambulist) that she, as M. Z., would remember everything on awakening that she had admitted—that is to say told me in her character as F. L. However, I had to desist within a short time, for the patient only became very excited by this, got a headache, and nearly got an hysterical attack, and I would soon have lost all my influence over her. M. Z. was obviously ashamed and emotionally affected by the dawning remembrances, especially those of the homo-sexual nature. Later on I tried to relate the matter to M. Z. during the waking condition. At first she became so excited about it that I had to leave the sexual theme at all events untouched. She had never been able to paint—that was all stupid nonsense, etc. After she had improved considerably she told me spontaneously one day that something was becoming clear to her. She was in possession of a photograph of herself which had always been a puzzle to her. She was wearing a blouse in the picture, and was standing in front of an easel with a paint-brush and palette in her hand. She was not aware of ever having been photo-

graphed in such a costume, and she had never painted; further, she had no idea how she had got hold of this picture, but she had been forced to recognize herself in the picture, which she had found in her pocket one day. The matter must have had some connection with what I had told her about F. L. On the following day she really did bring me her photograph as a painter; it was just as she had described. Her look was markedly fixed in the picture.

The patient got a somnambulic attack that night, having been rather excited by my attempts. She came to me in the morning very disturbed in her mind, and told me that she must have gone out of her room in her chemise during the night, for on awakening in the morning she found herself on the floor with dirty feet, her door open, and everything in disorder, and she was very tired. She related during the hypnosis (as F. L.) all of that which M. Z. had forgotten. The moon had shown brightly. This was a fact. The moon had attracted her; she had vaulted the banister in her chemise, and had gone into the fields to look at the beloved moon.

It now became quite clear to me that experimenting was only doing the patient harm, however interesting it might be. I should have liked to have tested her supposed telepathic capabilities, but I had to deny myself this, for I should have had to use F. L. for this. But my duty consisted in the contrary of this—*i.e.,* in suppressing F. L. so that M. Z. might regain her health by means of normal sleep. As a matter of fact, how can a person remain healthy if she is mentally active during sleep as well as during waking? She must become nervous, incapable of working, irritable, and like an hysterical plaything in unscrupulous hands, just like this poor victim of the craving for experiment and the curiosity of the students, spiritualists, and doctors. My experiments hitherto, however, had been necessary, since they had given the key to the double existence of the patient.

I left off giving orders which were unpalatable to her from this time, did not return again to the homo-sexual theme, and tried to win over the somnambulist F. L. by showing a sympathetic interest.

It may be mentioned here that she was hypnotized according to Wetterstrand's system in the same room as other patients, and the suggestions were whispered into her ear (as I always do). I then flattered F. L., and explained to her my scientific views in a friendly manner. She (F. L.) knew of M. Z.'s existence, while M. Z. did not know anything about her (F. L.). But both were existing in the same brain, and the poor brain would perish from this double work. I applied to F. L.'s generosity; she must sacrifice herself to make room for a healthy M. Z. She would have to give up the moon, and sleep, etc. I obtained a promise to this effect from F. L. by kindly persuasion. I then declared to her the impossibility of getting out of bed during sleep, and even of moving about in bed, suggested deep, absolutely quiet sleep during the night, etc.

The result was a continuous tranquility. A few mild somnambulic attacks, it is true, did take place, but she did not leave her room again, and in the course of a few weeks even these attacks ceased. At the same time M. Z. improved visibly. Her appetite and capability for work returned. The changing mood (sadness, irritability, etc.) stopped also. In short, after a few months M. Z. was in a position to enter into service with an elderly lady. Since then she appeared to be quite cured, and wrote to the woman with whom she had lived a very happy and bright letter, saying that she was now cured, after having been ill for many years. I had given her an amulet as a precaution in case of a temporary disturbance of her nervous system, with which she could put herself to sleep for half an hour and tranquilize herself.

Although this case is not so striking as that of Mr. N. with his Australian journey, it is nevertheless very instructive on account of the analysis. It confirms the rule which I would wish to formulate.

A person does not know anything, or only knows very little, about his sleep life during the waking condition. During somnambulism or the sleeping condition, on the other hand, he generally knows of his waking condition. F. L. knew of M. Z., and spoke of her as the "second F." But this is a detached, dissociated knowledge, a dreamlike knowledge. The somnam-

bulist only has knowledge of a few half hallucinated pictures both from his actions and thoughts during the somnambulism, and from his doings and thoughts in the waking condition. These pictures follow one another mistily dissociated, while only the automatic instinct life remains well associated. One must therefore presume the existence of a " third," more animal consciousness, which is connected more with the activity of the subjected brain centers while the dream-consciousness belongs to the dissociated cerebral activity. In the somnambulic condition F. L. was as nimble as a cat, climbed on railings, and waltzed in giddy heights (as she had often been told), while M. Z. was very careful and nervous.

CHAPTER XI

SUGGESTION IN ITS RELATION TO MEDICINE AND TO QUACKERY

In spite of all the drastic satires which the priests of Æsculapius have had to submit to in all times, and which Molière's "M. le Pourceaugnac," "Le Malade imaginaire," etc., are perhaps the severest, they (the priests) always relapse into their old mistakes, as if they were incorrigible in this respect, and as if they were compelled by some law of Nature. I may mention the following as being some of these mistakes: professional etiquette, belief in the authorities, the dogma of infallibility, preconceived judgment, and, above all, the complementing of real knowledge by autosuggestions, which acquire the characters of aphorisms and of axioms, credulity in the simplest deductions concerning therapeutic results, and also (this must not be forgotten), unfortunately, charlatanism. Every calling has its weaknesses, and also its black sheep, and we should beware of the implicated metaphysics of some theologians, and of the hard, often pettifogging dogmatism of some lawyers, in which they disregard all psychological observations on man. However, it is certainly more advantageous to study and combat our own weaknesses and diseases than to wait until some unknown quack turns up to teach us and to laugh at us. The lawyers are beginning to weed these things out, and are adapting themselves to the results of scientific investigation. The scientifically educated medical practitioner ought not to fall behind and claim the privilege of dogmatism and of superficial credulity.

One is always inclined to forget that, apart from the larger part of external treatment, perhaps two-thirds of the patients recover of their own account, and that the half of the remaining third either become incurable or die, without troubling themselves about our treatment. If we really improve or cure

the last sixth, we are doing a great deal, and we must, without doubt, keep on asking the question, "Have you not done more harm than good?" in order to keep the balance of our therapeutic conscience. What is it that really has cured the patient?[1] Of course, one is not to include prophylaxis in this.

The more exact a science is, the greater are the exactions which are made of its disciples in respect to exactness of results (compare, *e.g.,* mathematics and zoölogy). But the less exact sciences may not sin on this account, as if a license were held, and dispense with the logic of thinking reason, but must take its uncertainties and weaknesses openly into account, and search for greater exactness and new points of view in studying obscure questions. The matter has an extraordinary appearance in therapeutic "science." In those of this branch in which a more exact and clearer knowledge already exists we meet with a more critical mind, more exacting requirements, and a much greater reserve in the claims. The enormous advances of surgery have made this branch more modest and more careful. The less medicine knows in any one branch, the more dogmatic are the therapeutic claims, and the bog of the present-day medicinal therapy is scarcely less sticky than the bog of the herbal mixtures of the past or of the yard-long prescriptions consisting of twenty different constituents. It is true that chemistry has to maintain the appearance of scientific soundness for modern remedies in the place of botany; still, this is only changing the label. The unfathomable wantonness with which therapeutic results are cast about and boasted of, in medical journals, societies, etc., often for the purpose of advertising, and mostly with a disregard of the elements of logic and the most modest claims of scientific methods, has acquired most terrifying dimensions through the ever-increasing mass of the press. It has grown into a true medical cachexia. If we add to this the bouncing advertisements which are perpetrated without regard of, and in opposition to, all science, by hydrotherapy, balneotherapy, electrotherapy, metallotherapy, massage, and the systems of Dr. Y. and Father Z., etc., we gain a picture which is as sad as it is well known, and in which the laity will soon be

[1] See also Sonderegger, "The Outposts of Hygienic Measures."

unable to distinguish the swindler from the serious doctor. A very pernicious modern symptom is met with in the paid medical reports on this or that remedy or this or that method, instituted by enterprising companies for their own benefit. The beer brewers of Germany in 1905 secretly went even so far as to found their own illustrated magazine, in order to smuggle into it the medical opinions written by those in authority, in opposition to the total abstinence movement. The professors in question have been craftily ensnared, and their confidence has been grossly abused. But the matter is, nevertheless, significant.

What I have just written is common knowledge, but I regarded it to be necessary to repeat it. I will not ask, "À qui la faute?" for that would be idle; but I may ask, "Are there no means of curing this therapeutic disease?" I think that I can answer this partly in the affirmative, and am of opinion that one of these lies in an exact study of the weaknesses of therapeutic logic in its relation to suggestion.

When a secret activity invariably takes place, apparently in response to absolutely varying causes, which contradict one another and act irrespective of any law in the same regular way, with the same substance or with the same organism, human logic is justified in assuming that some of the apparent causes are either not really causes or are only indirect ones, which set the actual cause—*i.e.*, the real mechanism of the constant occurrence—into action in an obscure way. It then becomes necessary to discover the latter. A person who does not understand anything about electricity cannot comprehend why an electric bell rings either when one presses the button or when one adds fresh elements to increase the current, or when a mouse gnaws through the insulation of two wires touching each other. He will believe in the three different causes which he can perceive if he is thoughtless, but if he considers the matter carefully he will realize that some common cause lies at the bottom of it all. R. Semon built up his ingenious theory of the mneme on the basis of such-like considerations.

I must request the reader to consider the process of the cure of an idiopathic neuralgia or of a functional paralysis.

One sees it taking place miraculously immediately on applying the remedy, or advancing by stages, sitting after sitting, no matter whether this cure be effected by electric treatment (and, according to the theory of each electrotherapeutist, by the most contradictory forms of current and of application of the same),[1] hydrotherapy, massage, metallotherapy, antipyrine, quinine, tincture of valerian, and the like, taken internally; stretching of nerves, blisters, blood-letting, inhalation of amyl nitrite, fright, the laying on of hands, homœopathy, secret remedies of all kinds, vegetarianism, the so-called "natural methods," prayer, herbs (prepared by a somnambulist or some such fortune-teller), the holy water of Lourdes, persuasion according to Dubois, . . . or suggestion. No remedy acts in all cases, but each of the remedies named actually acts in a large number. The remedy which has once acted in a certain person is likely to act in recurrences, especially if the patient continues to have faith in it. I wish to call especial attention to the following: Each of these remedies acts especially well in the hands of those doctors, quacks, priests, midwives, or old women who believe in the action themselves, and the other remedies generally fail in their action when applied by them. This is the reason why there are so many contradictory opinions on this subject. It is useless to laugh and to meet my argument with the statement that this is based on humbugging or faulty observation. Both of these may occasionally play a part, but the law is much too constant to be explained in this way. There is no doubt about it, and the practitioner who believes that valerian is the only effective remedy for neuralgia obtains the best results with this drug, just as the one who believes the same of a certain application of a constant current will celebrate his victories with this method. But one must, of course, accept everything with a grain of salt, since not only the belief of the practitioner, but also that of the patient, comes into play, as do other circumstances, especially the narcotic and similar actions which the medicaments temporarily produce.

[1] Sperling of Berlin, for example, achieved surprisingly marked curative results with extremely weak currents alone, and Julius Heller of Lucerne, on the other hand, did the same with the exclusive use of very powerful currents and extensive contact of the electrodes.

What should one deduce from these facts? That these cures possess for certain some common cause, that they are induced by a common mechanism, which can, it is true, be stimulated in totally different ways, but which nevertheless acts in the same regular way in inducing the cure. The matter becomes more apparent when one remembers that the same remedy often removes entirely opposite symptoms, such as convulsions and paralyses, anæsthesia and hyperæsthesia, etc. The same currents, the same cold-water douches, the same prayers, the same baths (irrespective of whether the spring contains one one-hundred per cent. more or less lithium), often act equally well or badly in both cases. They frequently even do harm if the patient autosuggests this to himself, which is by no means an uncommon occurrence.

These facts show quite clearly that the common factor in the cure, which one has to surmise and to seek, lies in the body of the patient, and, further, that it can only lie in his nervous system. No other tissue of the body is capable of starting such an equable machinery by so many means. If we take into consideration the part played by the belief which the practitioner passes on to the patient, it becomes apparent that all these cures are produced unconsciously by the dynamic action of perceptions—*i.e.*, by suggestion. One must admit, after carefully considering the circumstances, that there is no possibility of a direct specific action of these remedies taking place in the majority of cases, for the absolutely incongruous contradictions on the one hand and the confirmations on the other could not be reconciled by such an assumption. The matter can be explained simply and naturally by suggestion, understood in the sense in which I have hitherto used the term.

Bernheim has expressed his opinion repeatedly and unreservedly on the suggestive action of a considerable number of medicaments and other therapeutic procedures. This was done notably in 1889 in Paris, on the occasion of the Congress on Hypnotism. I elucidated the train of thought sketched above before the meeting of German scientists in Bremen in 1890, in discussion against Dr. Klenke. The latter openly related his own contradictory and startling results with electrothera-

peutic treatment, and tried to explain the action as being due to vasomotor forces, while he doubted whether there was any specific action in the current itself. The vasomotor nerves, naturally being a part of the mechanism subjected to the control of our cerebrum, do take a part in the action. However, the action of suggested currents, in conjunction with an interruption of real currents, proves that the regulation emanates from the conception, which is associated with the local interference.

Dr. Naegeli, of Ermatingen, Canton Thurgau, Switzerland, has discovered a new curative treatment—"the treatment of neuralgias and neuroses by manipulations." At first every one laughed at this new method, but later on it was recognized by the scientific medical world, especially since he published the method in an illustrated book in the medical press. But when Naegeli terminated his explanatory remarks on his method before the Swiss Central Society with the words, "Suggestion is excluded," a smile stole over the faces of every one present. As a matter of fact, Naegeli's head, hand, and other manipulations are pure forms of suggestion. Instead of recognizing this, an attempt was made to carry out absurd experiments by means of which the matter would be explained by mechanical vasomotor processes.

Brown-Séquard's empiricisms on spermatotherapy also were admitted into scientific medicine, possibly because they originated from a scientist. Naturally, curative results were obtained by this means, for a powerful suggestive factor must act in this case. One hears of results which have taken place without the patient knowing anything of the procedure, but how can one carry out an injection without the knowledge of the patient? The organotherapy developed in response to a comparison with injections of other substances. According to this last-named, the physiological action of an organ can be more or less transferred to the body by the eating of the organ. Luckily, one does not hear much about these new panaceas now, although there certainly seems to be something in it as far as the thyroid gland is concerned.

Homœopathy, the new-fangled "natural methods," Kneipp's methods, and the like, owe their results to suggestion in con-

nection with a healthy dietary. Apart from this, they further owe their power to the avoidance of a haphazard application of active remedies. In this way the most consummate ignorance, the most idiotic superstition, often in conjunction with the most contemptible advertising swindle, may succeed in competing successfully with sound medical science. But why should one damn the whole treatment by suggestion, even if the suggestive action of our drugs and methods is not satisfactory? The actual justification of the homœopathic method, for example, cannot, of course, be admitted as long as we have no proof that homœopathically diluted drugs act by themselves, without the assistance of the credulity of the patient.

Should we go to the other extreme, and only see suggestive action indiscriminately in everything? Those who interpret us like this, or who pretend to, either do not or will not understand us. In medicine one must distinguish serious investigation, clear and indisputable facts, and also those facts which are explained in their causal connections from the therapeutic drivel, as I have described it above. The laity is inclined naturally to confuse things, and may refuse medical science on account of the medical shortcomings.

One comes across cases and methods of treatment frequently enough which demonstrate quite clearly that when one compares the results of alternating exhibition of the method and those of pure suggestion carefully and without bias the results may be referred one and all to suggestion. This becomes clearer the longer one continues these observations. The experiment must be carried out without the patient being aware of it, and should be tried in a number of patients. One can substitute an absolutely inert drug for the drug which one is testing, but the name should not be altered. The theories of specific actions of certain drugs can also be disproved by removing the essential conditions for the specific action without letting the patient know of it. One obtains just as good results, if not better ones, in this way if one carries out the suggestions skillfully and intently. But one may not have a personal faith in the drug one's self. Bernheim is undoubtedly right in referring the action of suspension for tabes dorsalis, the results of metallo-

therapy, and at all events the greater part of the results of electrotherapy, to pure suggestion. I would add to these the greater part of balneotherapy (the supposed specific action of certain natural springs), of hydrotherapy, and many other new and old-fashioned methods of treatment, without hesitation. In these the whole type of the results shows clearly that they belong under the same heading.

One should not forget that the suggestive action of numerous methods of treatment is particularly powerful, and the results are often better than those of simple verbal suggestion for this reason. To wit, the mystic nature of the remedy (electricity, metallotherapy), the peculiar local sensation (electricity) or pain (blisters), erotic sensations (Brown-Séquard's spermatotherapy), powerful shock (suspension, cold douches), the religious belief (laying on of hands), the high price or altered surroundings and the improved conditions of life (treatment in watering-places, etc.). One is not justified in contending that the action of any method does not depend on suggestion because the method succeeds when simple hypnotizing fails. For this reason one must continue to use these methods, and to continue them with verbal suggestion.

However, the most instructive cases are those in which the suggestive action is combined with an ascertained specific action of a drug. Bernheim has proved conclusively that chloroform often acts suggestively, especially in those cases in which the patient falls fast asleep after having scarcely taken a couple of breaths. In these cases one can calmly sprinkle something else on the chloroform mask on the next occasion; the anæsthesia will set in just as well. Roth[1] described a case of this kind. One can observe the intermingling of suggestion and the action of the drug still more clearly in the breaking off of the morphine habit. The patients often go to sleep in response to an injection of pure water at the end of the treatment, but cannot sleep without an injection. We are not going to dispute the narcotic actions of morphine and chloroform, for they are absolutely clear, certain, and powerful. The following may be taken to represent the scientific moral of the story:

[1] Roth, *Correspondenzblatt für Schweizer Aerzte*, vol. xix, 1, p. 29, 1889.

Suggestion insinuates itself insidiously into all the actions of our lives, and combines with the therapeutic attempts of all kinds in a very complicated manner. At times it acts by accelerating and at times by inhibiting. It either adds to or subtracts from the action of the drug. But in a large number of cases it actually forms the only therapeutic agent. Both doctors and patients have been deceived about the specific action of numerous drugs from the earliest times, and the scientific development of therapeutics has suffered considerably in consequence. I do not deny that the more "enlightened" formerly realized the matter more or less, and recognized that "fancy" played an important part in cures. Still, the most enlightened did not have the faintest idea of the real importance of suggestion, of the actual objective intensity of its action, and of its identity with the phenomena of animal magnetism, which they themselves felt obliged to regard as mysterious. Animal magnetism used to be called cures by miracles or by witchcraft.

It has become a problem of the investigations in therapeutics of the future to exclude the suggestive element carefully and with scientific certainty by means of exact, painstaking experiments with every method of treatment (medicinal, externally or otherwise applied). This task will be found to be extremely difficult and delicate in many cases. In any case I warn the reader against the empty and impudent presumptive assertion printed in advertisements; since the introduction of the doctrine of suggestion one reads at the end of the praises of a large number of vaunted new remedies, "Suggestion is excluded."

It is just in these cases that a purely suggestive action is most probable.

A serious and careful valuation of suggestion must assist in overthrowing the exuberant and corrupt therapeutic frauds of the present day.

What right have we to object to the homœopaths, the herbalists, the magnetizers, the persons dealing out mystic treatment or treating by prayer, or to their practice or results, which really only depend on suggestion and on remedies stolen from medicine, as long as we allow ourselves to be led astray so disas-

trously by suggestion? We ought to first clear our own domains of fraud and of deception by sound investigation; we should then have an easy task with these gentlemen, for they only gnaw at the outside of science, and build up their knowledge out of the scraps which they can pull off.

There are further two points of view which are very damaging. Firstly, there is the fact that we have partly to approve of the views of those persons who do not wish to have anything more to do with the whole of medicine (surgery, perhaps, excepted), because of the false belief in an enormous number of specific actions of drugs and costly or exhausting methods of treatment, which really act wholly or partly by suggestion, and often do more harm than good. These persons are inclined to return to a natural mode of life with outdoor exercise, hardening, avoidance of all artificial toxic foods, all alcoholic drinks, etc. It would be most disheartening if medicine were to allow priests and herbalists to claim the right of interceding for this first principle of a true and healthy hygiene, by introducing propaganda for alcohol, morphine, brothels, and also numerous dear and useless medicaments,[1] by which means it would only favor rather than hinder the development of hypochondriasis, nervousness, and degeneration of the race. Secondly, medical practitioners have to protect themselves against suggestion in themselves—*i.e.*, against autosuggestion. As Bernheim has told us, incredible things are done in this respect in medicine. This fact is not easily differentiated from the first fact, since the practitioner is often himself suggested by means of the suggestive action in the patient. But in this case I would wish to deal with the practitioners who are intuitively influenced by their muddled, undigested, phantastic combinations of curative means in such a way that they find panacea in all of them; at times there is not much more logic in this than there is in Gustav Jäger's hair pills and their accompaniments. It is only necessary for the author to have a reputable name, or to use scientific language in its strict sense, or, better still, if both of these are accomplished facts.

[1] Forel, "The Hygiene of the Nerves and of the Mind." (Stuttgart: E. H. Moritz, 1905, 2nd edition.)

These very people are the ones who are afraid to have anything to do with hypnotism, and assume a scornful tone because the matter appears to them to be unusual, and because they consider that it has a mysterious and fraudulent reputation. They are afraid of compromising themselves. They are entirely influenced by the stuff and nonsense clothed in scientific expressions of the present day; it would be almost sacrilege to investigate the matter scientifically. "German science refuses to accept hypnotism" is one of these stereotype phrases, on the strength of which one considers one's self justified in backing out of a real scientific investigation of the question. As if science could be called German or French or English, and as if it could judge *a priori* in an adverse or favorable light! It is the same old story of the "petit hypnotisme de Provence" of the Parisian school.

With the best intentions, the Minister of the Ecclesiastical, Educational, and Medical departments of the Kingdom of Prussia issued the following order to the Berlin-Brandenburg Medical Council (*Aerztekammer*) on April 5, 1902:

"It is a matter of interest to me to be informed as to the curative value of hypnosis, and also to what extent and with what results the same is employed by doctors in the treatment of patients."

As soon as the author heard of this he took the liberty of calling his Excellency the Minister's attention to the fact that hypnotism is almost entirely excluded from the syllabus of the medical schools, that only a few practitioners have taken up this study of their own initiative, and have obtained extremely satisfactory results, and also that medical students are not taught psychology, and in consequence the majority of practitioners, and especially the teachers in the schools, have no knowledge of the whole question. It was therefore to be expected that his question would receive a negative reply—*i.e.,* that the committee of the Medical Council would express itself in opposition to hypnosis as a curative method. My expectations were naturally fulfilled. However, neither official reports nor the vote of the majority can decide in scientific matters. For this reason I took upon myself to subject the Report of the Hypnosis

Commission of the Berlin-Brandenburg Medical Council, issued by Messrs. Mendel, Gock, D. Munter, and Aschenborn, to a critical survey in the *Münchener Medicinische Wochenschrift* (No. 32) in 1903. Mr. Mendel is well known as an aggressive opponent of treatment by suggestion, although he has obviously never inquired into the matter himself. I am unacquainted with any special technical knowledge on the part of the other three gentlemen.

To avoid having to repeat myself, I refer the reader to this article, and will be content in stating briefly that the Report of the Hypnosis Commission of the Berlin-Brandenburg Medical Council is a miserable dogmatic fabrication, which carefully and consistently ignores the proofs of the results of suggestive therapy, which have been most conscientiously reported in the medical press. It exaggerates unjustifiably the unimportant dangers of the practice of it by lay persons or by unskilled practitioners, and at the same time does not mention the fact that it has been proved to be absolutely safe when practiced by experienced men.

I feel that I have said enough about this. Liébeault's and Bernheim's doctrine of suggestion forms a deeply rooted, gradual reform of internal medical treatment, is indicative of a moral elevation of medical science and its reputation, and wins a signal victory over the mysteries of miraculous cures and secret remedies. Even external treatment will have to deduce its doctrines from it, and will have to be careful in future not to remove an ovary in cases in which the trouble can be cured by suggestion, or to interfere with the caput gallinaginis in disturbances which are psychically produced, but in which the symptoms are referred to the sexual organs. It will further have to avoid destroying the hymen in girls in order to treat the os uteri, when the disease is situated in the head, or to tan the mucous membrane of the stomach or intestine in vain by all sorts of remedies in the attempt to cure non-existent gastritis or enteritis, or even constipation, when a few suggestions can often remove the innervation dyspepsia, which is really responsible for the symptoms. One might go on giving examples of this kind almost indefinitely.

CHAPTER XII

THE FORENSIC ASPECT OF SUGGESTION

Von Lilienthal[1] published an excellent résumé of the results of hypnotism in its relations to law. This essay has been composed from the lawyer's point of view, and illustrates the question very lucidly. Von Lilienthal comes to the conclusion that law, as it stands at present, contains sufficient provisions for the protection of society against the dangers of hypnotism. Rieger and other authors who reject or ignore hypnotism *a priori* and without any technical knowledge of it do not deserve to be listened to, since their absolutely unscientific standpoint has been overruled in every quarter.

Hoefelt[2] has also published a valuable and interesting study on this subject.

In the following I will attempt to avoid encroaching on the province of the lawyer, and will only emphasize the facts which, according to my experience and also to the experience of others, appear to be of importance to jurisprudence.

I must refer here to a bulky work by Liégeois, "De la suggestion et du somnambulisme, dans leurs rapports avec la jurisprudence et la médicine légale, 1888." I certainly agree with von Lilienthal that the matter is not so dangerous in reality as Liégeois tries to make out. But I also must partly agree with Liégeois in his criticism of Delbœuf, who has completely misunderstood the earnestness and legal importance of suggestion.

First of all, one must mention the interesting fact that the disposition of certain persons, which has been observed and recognized from the earliest times, of allowing themselves to be very easily, and one might say instinctively and uncon-

[1] Von Lilienthal, "Hypnotism and its Relation to Jurisprudence" (in the *Journal of Collective Legal Science*).

[2] Hoefelt, "Hypnotism in its Relation to Jurisprudence." (Leiden: S. C. van Doesburgh, 1889.)

sciously, influenced by others without recourse to hypnotic procedure is based on suggestion. This disposition is very highly developed in certain persons, in men as well as in women. They simply cannot resist the suggestion, the influence of those who take an interest in them, and in consequence become the playthings of other people, and are mostly misused. One frequently speaks of them as being weak-minded. But they are often very intelligent and industrious, and are by no means always weak in controlling their passions. They may even show great devotion, energy, and perseverance, but they are incapable of resisting the suggestions of certain other persons. The most glaring facts are not sufficient to bring them to their senses, or are incapable of removing them from the influence of those persons who have once gained the mastery over them. These persons need not by any means be their mental superiors. A book, even a thought, can influence them in a similar way.

On the other hand, we meet with people who know how to subject others irresistibly to their influence. These are great natural hypnotists. They often abuse their gift if they are unscrupulous. An historical example of this kind is met with in the person of Napoleon I. One frequently hears it stated that the results alone create this. But that is not correct. In a small way one can often observe persons who fail frequently because they lack a clear perception, but who, nevertheless, act on many other persons, as if by "magnetism," especially on women, and lead to the ruin of a large number of them. The victims not infrequently explain later on that they simply could not resist the influence of the person in question, and had felt an intoxicating sort of mental compulsion. Such cases undoubtedly occur not only in connection with "love," but also without any connection with sexual matters.

These facts are absolutely identical with suggestion in waking condition. It becomes a matter for the lawyers to determine whether or not the psychological relationship to the mentally dependent, will-less condition can be utilized in the future in forensic practice.[1]

[1] This paragraph in the second edition of my book appears not to have been taken into consideration in the celebrated Czynski trial.

In passing on to hypnotism in its stricter sense, it is necessary to point out, as von Lilienthal has done, that the hypnotized person may be the object of a crime, or may commit a crime. I am intentionally not quoting from the literature, as I wish to avoid repeating what von Lilienthal has said in his essay. I propose to deal chiefly with the range of suggestion here.

I am convinced that every conceivable crime may be committed on a hypnotized person, provided that a higher degree of hypnosis is attained. We have seen, further, that one should not lay too much stress on the not-willing on the part of the hypnotized, since there are innumerable grades of this. But a general knowledge of hypnotism will familiarize the public with its dangers, and thus put it on its guard. Apart from this, the precautionary measures recommended by Bernheim and Beaunis, of insisting on the presence of an authorized witness during the hypnotizing, and of obtaining the permission for the proposed suggestion beforehand, have been mentioned by von Lilienthal. It will be very difficult, however, to carry out the second point, and it is the French authors especially who have sinned most in this respect.

A further protection, which is at the same time the most important, is found in the hypnotized himself. However tempting and easy a crime on the hypnotized person may be, the results of this for the hypnotist are extremely dangerous, for the whole structure on which he would build up his security is a fragile one, which can very easily be blown over. The hypnotized person sometimes awakens at a time when one least expects it. At times one thinks that he is amnesic, and yet the recollection of it all suddenly returns to him, by means of some autosuggestion or other. The subject can mostly be hypnotized by another person, and a complete detailed remembrance of what has happened may be restored to him in a later hypnotic sleep. All the impressions which his brain received during the hypnosis are preserved in it. They are merely prevented from being conceived by an inhibitory command, and this command can be easily overruled. I believe that the instinctive feeling of these facts on the part of hypnotists is to a great extent responsible

for the fact that so few crimes have hitherto been committed on hypnotized persons.

There is no doubt, however, that all these safeguards of hypnotism are almost completely lost for certain "better somnambulists," especially for certain hysterical persons, who are so completely and deeply affected by suggestion that one could misuse them in any way with comparative safety. It is very difficult to say what percentage of people belong to this category, for one cannot judge a number of persons whom one only hypnotizes once or twice. As we have seen, a person, who for a time does not appear to be hypnotizable, or only appears to be slightly hypnotizable, can suddenly become a perfect somnambulist if one ascertains the proper access to his individual suggestibility. The figures which have been accepted up to the present by the Nancy school of fifteen to twenty somnambulists per one hundred persons, and about fifty per one hundred children, will probably be found to be capable of considerable increase if sufficient practice and a deeper study into the nature of suggestion be employed (see O. Vogt's results). However, there are many grades of somnambulism, and one must not deduce from these figures that it would be easy to commit a crime undetected on every somnambulist. Liégeois has an erroneous conception of suggestion when he states that somnambulists are necessarily automatons, and I wish to point out here that Bernheim has never agreed with him in these exaggerations.

Von Lilienthal considers that one can draw a distinction between the lethargic and the somnambulic condition in law. The lethargic person alone is regarded as unconscious legally, probably in response to Charcot's statements. The somnambulist, with his power of speech and open eyes, is, as a matter of fact, just as incapable of resistance as is the lethargical person who is only apparently unconscious. I refer to what I have already said on this subject. I must, of course, except deep pathological lethargy, which does not belong to hypnotism, but rather to the category of hystero-epileptic and epileptic attacks, and which cannot be transformed into somnambulism at will, like Charcot's form of lethargy.

The most common crime is that of a sexual nature, and up to the present this is the only one which has been dealt with in the literature. This consists simply in the abuse of a deep hypnosis, for the purpose of the performance of sexual intercourse by the hypnotist, who is satisfied that his victim will not awake, and that she will remain amnesic. There is no doubt that this is possible with certain very good somnambulists—*i.e.*, with those hypnotized persons in a condition of deep sleep who can be rendered anæsthetic, and who remain amnesic. If one considers that I was able to put nineteen out of twenty-three female attendants to sleep with amnesia and anæsthesia, one will realize the danger easily. But one must not forget the danger of being found out later on. However, the danger is very great when one thinks that the two chains (superconceived and hypoconceived) act in the same brain, and that the tempter will achieve his aims more surely and more cleverly during waking suggestion. This cannot be so easily followed up by criminal law (*cf.* the Czynski trial). It is self-evident that murder, theft, and the like could easily be committed on such defenseless persons. They are, for all intents and purposes, in the same condition for the moment as if they were drugged, or deeply idiotic, or even apparently dead. For this purpose, however, it is necessary that the criminal has not previously awakened the mistrust of his victim for a single instant, for otherwise this alone would be sufficient to desuggest him. But after all is said and done, the advantage for the criminal is not very great over the more usual attacking an unsuspecting and defenseless person.

The abuse of posthypnotic actions of suggestion appears to be more complicated. One might wait until such a case is subjected to legal judgment. However, I am of opinion that it would be wiser to form a clear idea on the subject at once.

I have shown that these phenomena vary considerably, according to the personality. The varying individual ethical or æsthetic reaction of a normal person to unethical or unæsthetic posthypnotic suggestions is very interesting.

If I say to a hypnotized person, "After you awaken you will drink some water out of this glass," this suggestion is carried out without any hesitation. If I add to this, "You will

also place this chair on the table," some persons will be puzzled, will look at the chair, be ashamed, laugh, and in the end some of them will not carry out this second suggestion, because they consider it too stupid, too simple. If one asks them what they are thinking about, they answer, "I got the stupid idea of placing this chair on the table." This thought can follow the hypnotized person for a long time, like a kind of impulsion, if he has failed to carry out the suggestion. But this is not always the case. The idea is often soon lost, and then the matter is ended. If I say to a still more suggestible hypnotized person who has placed the chair on the table, "After awakening, you will give Mr. X. a kiss," or, "You will upset this inkpot over your hand," or "You will put my knife, which is lying on the table, into your pocket; I will not notice it. This will no doubt be a small theft, but that does not matter," the result will be different. A violent struggle between the impulse of the suggestion, on the one hand, and the associated æsthetic or ethical opposing conceptions of the normal individuality—*i.e.*, of the inherited and acquired (educational) brain dynamisms—on the other hand, will take place. This struggle increases in proportion to the strength of the opposing conceptions and to the development of the suggestibility. The stronger the antagonistic forces are developed, the more violent the struggle will be. The upshot of it will depend on the momentary intensity as well as the durableness of each of the forces. One must therefore take each of the component parts into account which make up each of the antagonistic forces. These may be tabulated as follows:

1. The degree of the individual suggestibility.
2. The lasting power of the action of the suggestion in the brain of the hypnotized.
3. The strength of the hypnotic education or training.
4. The depth of the sleep (which diminishes the power of resistance of the normal mind by dissociation, and is of special importance in the activity during the hypnosis itself).
5. The adequate nature of the suggestion—*i.e.*, the adaptation of the desired action skillfully and powerfully suggested, or, in other words, the psychical action of the hypnotist.
6. The normal individuality of the hypnotized—*i.e.*, the

standard and kind of his ethical and æsthetic disposition, his power of will, his education, etc.

7. The momentary psychical condition of the hypnotized, etc.

The sixth item is very important. A person who does not possess a sensitive conscience will, *ceteris paribus,* carry out a criminal suggestion more readily than a person possessed of a well-developed conscience. A cunning person will not be so inclined to carry out a criminal suggestion in which he gains no advantage as soon as he "smells a rat."

Item 4 holds good also for posthypnotic conditions, as we have already seen, provided that these possess more or less the characters of a renewed hypnosis. The more completely awake the hypnotized person is, the more readily will he be able to protect himself against a suggestion. But one can suggest to him that he will go to sleep again posthypnotically.

It can readily be understood how complicated the problem is. The question is, "How far can one go?"

I have pointed out that even during the deep hypnotic sleep a struggle between the suggestion and the individuality of the hypnotized can take place. Not every suggestion is accepted. This has been clearly pointed out by Bernheim. But even when a criminal suggestion has been accepted, it usually leaves traces of deep associated emotions behind.

In the presence of the Zürich Law Society I put a seventy-year-old man to sleep in an empty room, and said to him: "Look there, B.; that man standing close to us is a wicked wretch, an unmitigated rascal. Let us do for him; here is a knife." (I handed him a piece of chalk.) "He is standing immediately in front of you; stab him in the abdomen." Evidencing great excitement, trembling, and with drawn features, he seized the chalk convulsively in his right hand, suddenly got up, and plunged the knife (chalk) with great force twice into the air. He continued to be excited during the hypnosis, and did not return the chalk to me, but put it into his pocket. It took me several minutes to quiet him by suggestion. When I awoke him he was still sweating and excited. He could not remember what he had been doing, but said that "something wrong must have taken place."

Bernheim, Liégeois, and other French authors, have related some exceedingly interesting cases of criminal suggestions, some of which were carried out quietly, without emotion. These included imitation murders, suggested real thefts, etc.

For the purpose of assisting Mr. Hoefelt, a young lawyer, who was writing his thesis on this subject, I carried out two experiments of this kind. I gave an elderly, very suggestible man a revolver, after having hypnotized him; Mr. Hoefelt had previously loaded it with blank cartridges. I told the subject that Mr. Hoefelt was a very bad person, and that he was to shoot him. He took up the revolver with great determination, and fired a shot straight at the lawyer. The latter, pretending to be wounded, fell down. I told the hypnotized that the fellow was not quite dead: he must fire another shot at him. This was done without hesitation. Professor Delbœuf might answer me that the hypnotized had known from the first that I would not order him to commit a real crime. I admit this. But he ought to allow that the man must have had a very extraordinary, almost incredible presence of mind and a limitless confidence in me were this so; for, firstly, I had never carried out such an experiment before; and, secondly, the loading of the revolver with blank cartridge (of which he had no idea), and the very loud report which the firing caused in the closed room, as well as the excellently acted fall by Mr. Hoefelt, would have disturbed the balance of the best malingerer, at all events for an instant, and have awakened him; but this was not the case. The second shot was fired as deliberately as the first.

A modest (elderly and ugly) servant-girl, whom I had known for many years to be extraordinarily prudish, energetically resisting the most ordinary medical examinations—*e.g.,* that of the breast—and getting excited about it, was at the same time a highly suggestible somnambulist. At that time, however, she was not under the slightest obligation to me, nor had she any reason to hope for an engagement from me. I advised Mr. Hoefelt to look her up, and to obtain her sanction to allow me to hypnotize her in his presence. She consented to this. I then gave her the suggestion during the hypnosis to strip completely to the waist in the presence of this strange gentle-

man and myself. She carried this out immediately, without hesitation, and without exhibiting the least emotion. I own that I was astounded at it. If I had not been absolutely certain of her complete amnesia, I would never have dared to have performed this experiment, for she would have despaired had she known. I only carried it out with considerable disinclination, and only in the interest of science, for this kind of experiment borders on the illegal. But, on the other hand, something has to be done to illuminate the matter. Professor Delbœuf would say to me that hundreds of girls do this during full consciousness. But this is only true of a certain category of girls. In this case I knew the girl, her straight, modest character, well for many years, or else I would not have laid any stress on the experiment. Much less was proved in the case of another hypnotized, whom I caused to box Mr. Hoefelt's ears soundly (J. A. Hoefelt, *loc. cit.*).

One must agree with Delbœuf that Liégeois has exaggerated the forensic dangers of suggestion greatly, and the facts—*i.e.*, the small number of actually proved crimes induced by hypnotism (suggestion)—seem to bear him out in this. But Delbœuf generalizes a great deal too much in his negations. He admits that he does not render his somnambulists amnesic, and does not suggest a deep sleep to them. Now, this is a matter of taste, but he gives all these persons the suggestion of a light sleep, and neglects the experiments of deep sleep with amnesia and anæsthesia. There is no doubt that a large number of somnambulists are so enormously suggestible that they can be rendered almost completely at the mercy of the suggestions of the hypnotist. These persons are the dangerous instruments for the carrying out of crimes, and also may become the easiest victims of the same. For this reason they need not be necessarily bad or weak-minded persons; they are frequently weak in this one respect only. I am acquainted with some of them who are even quite good characters. The fact that such persons have in former times been misused by cunning criminals for their own purposes, even without hypnosis, has been made use of by Delbœuf somewhat narrowly. Delbœuf recognizes that a full hypnosis is not necessary for suggestive influencing. Conse-

quently, he ought not to reproach the Nancy school for having erroneously ascribed these cases to suggestion, but he ought to blame those former judgments which did not realize that suggestion was playing a part. Liégeois, on the other hand, was mistaken, according to the views of all level-minded specialists, in imagining that in the celebrated murder committed by Gabriele Bompard this morally defective person had told the truth about the circumstances of the murder during the hypnosis. Delbœuf is quite justified in opposing him in this particular. Although she has never stated it, it is quite possible, and not improbable, that, as she was so very easily influenced, Bompard acted in obedience to Eyraud.

The matter assumes quite another appearance if one places one's self in the position of the judge, and regards Bompard as an undoubtedly ethically defective, hysterical subject. This was, in all probability, true. The absurdity of the legal logic lies in sentencing such a person. I have repeatedly tried to express myself in this direction.[1] Delbœuf expresses himself in favor of a sentence,[2] "because Society has only to protect herself, and not to punish a crime or improve the criminal; and because people like Bompard are dangerous, and it is especially dangerous to encourage this class by leniency or by acquitting the prisoner." But in this the fine old logician and investigator has made an error which I cannot allow to pass. For, following out his reasoning, one ought to punish all dangerous lunatics for the same reasons. I agree with him, with the exception of the punishment, but only in the opposite sense. One should render all criminals harmless, just as one does lunatics (Society is undoubtedly bound in duty to do so), but one ought not to inflict the odium of criminal sentences on irresponsible brains with such an amount of pomp.[3] I am convinced of the fact that a good somnambulist may commit serious crimes during hypnotic sleep in response to suggestion, and that, under certain circumstances, he may not know anything about it later on.

[1] Forel, *Journal of Swiss Jurisprudence*, 2nd year, vol. i., 1889; and *Corresponding Journal for Swiss Practitioners*, 1890, etc.

[2] Delbœuf, *Hypnotic Review*, January, 1891.

[3] *Vide* also Delbœuf, "The Pathological Lie" and the "Textbook on Forensic Psychopathology."

The best proof that a good somnambulist believes that he has intentionally carried out those acts which he has committed posthypnotically is to be found in the way in which he is ashamed of them, and in which he shows his embarrassment and tries to conceal the act. I induced a hypnotized person who was ethically rather weakly developed to steal a knife lying on the table posthypnotically. As soon as she left the room she went to my cook and told her with some embarrassment that she had taken the knife with her by mistake; she did not know how she came to do it, and requested the cook to replace the knife without saying anything to me, as "she felt very awkward about it."

One of the most insidious tricks of suggestion might be met with in the employment of suggestion as to time (*Termineingebung*), which is always possible, together with the suggestion of amnesia and of resolution of free-will, in order to cause a person to carry out an act to serve a selfish purpose or to commit a criminal deed.

In former times one often noticed that the hypnotized were afraid of the hypnotist, and that they concealed themselves from him, as they would from an "evil spirit." This was due to the fact that the "magnetizers" of that time did not understand their own art in its psychological sense, and induced the hypnosis with all sorts of humbug having the appearance of mystery. Hypnosis is achieved by Liébeault's method with the assistance of comforting, quieting, natural, and friendly words. The hypnotist does not now appear like a Mephistopheles with his apparition; he gives the impression of being a helpful doctor, or, at least, of being a trustworthy man of science, who applies natural and not supernatural remedies. Apart from this, he has it in his power to make the hypnosis beloved and desired by the hypnotized by means of suggestion. He can suggest to them the feeling of being well, good spirits, good sleep, appetite, etc. The fact that persons hypnotized in this way for the most part gladly come again, and regard the hypnotist as their friend, can be explained by this. And in this fact lies the greatest forensic danger of suggestion. One catches flies with honey, and not with vinegar. It is true that it is not a recent

development, as we have already seen; that certain siren-like persons possess the gift of transforming other persons into their blind tools, for their own egotistical purposes. But undoubtedly much more may be done in this respect in the future with the help of well-directed, regular suggestion.

However, in spite of all this, the danger of the hypnotized, who pays such close attention to the hypnotist, detecting unspoken intentions of the latter, and of thus losing his suggestibility, is so great for the hypnotist that it swallows up everything else, and really reduces the forensic danger of hypnotism enormously.

Besides, the newly acquired knowledge brings its antidote with it. People are warned by it of the danger of suggestion by unscrupulous persons. The judge will have to learn to weigh and judge the psychological import of the whole series of facts. Lastly, a highly suggestible person can acquire a considerable, if not a complete, protection against bad suggestions by allowing himself to be suggested by an honest practitioner in the presence of witnesses, to his advantage. This protection can be attained by suggestions of power of will, self-protection against pernicious influences, etc. One must tell the hypnotized (this is of paramount importance), "I alone can hypnotize you; no one else in the wide world can do it."

Unfortunately, a criminal can employ similar means, and say to the hypnotized, "I alone can put you to sleep, and you will not know that you have been hypnotized." Liégeois, it is true, has demonstrated (*loc. cit.*), with the help of experiments, which he carried out together with Bernheim and Liébeault, that one can force a hypnotized person to reveal the identity of the wrongdoer indirectly, by means of suggestions of apparent safeguarding the rogue who has cunningly suggested amnesia, personal initiative, etc., for the purpose of committing a suggested criminal act. However, Liégeois seems to have come to the conclusion that one must be able to hypnotize the somnambulist again, and that the wrongdoer was not able to suggest successfully, "No one else in the wide world can hypnotize you again."

I am of opinion, in common with Liégeois, that the detection

of the real criminal by hypnotic means applied to the somnambulist will always succeed easily in the hands of a practiced hypnotist, as long as it does not lie in the interests of the hypnotized to keep silent on the subject.

But the possibility of a crime is not excluded by this. The criminal often commits his crimes without sufficient precaution; and yet hypnotism may exercise its attraction for the criminal, because it offers a certain degree of safety and protection for him for the immediate future. And, apart from this, one will not always think of hypnotism in connection with a suggested, apparently spontaneous deed.

The Czynski case, in which a hypnotizing pathological swindler (Czynski) carried out a sexual assault on a titled, virtuous lady, and wanted to marry her, shows how difficult it is to fix a definite limit to the possibilities. He had first hypnotized her for the treatment of some condition, then tried to excite her sympathy for him, and pretended to be madly in love with her (probably he actually felt this passion, for it is not uncommon with pathological swindlers of this type to have a very elastic imagination). Professor Hirt believes that suggestion can be excluded, and that a natural love existed; Professor Grashey accepts hypnosis, and speaks of a pathological love. Doubtless the love of the majority of psychopathic persons like the Baroness is, to some extent, pathological. Dr. von Schrenck accepts a suggestion influence, and is certainly right. There is no doubt that a powerful suggestive influence had been exercised. But this takes place in every intense passion, as Hirt has correctly pointed out. As I have repeatedly emphasized, one has to deal with the sum total of actions. An excess can be attained with the assistance of a skilled hypnotic suggestion, and a sexual inclination can be changed into an irresistible resignation. Who can weigh these imponderable things?

A further danger of hypnosis might consist in the production of illnesses. As will be easily understood, no experimental proofs in support of this contention are available. But the matter is, nevertheless, undoubtedly possible, and even easy. Hysterical attacks have been accidentally produced by faulty

methods in hypnotizing. Even the Nancy method can produce unpleasant results in the unskilled hands of a novice, as we have seen, if the hypnotist does not know how to nip the autosuggestions of morbid symptoms in the bud immediately applying energetic opposing suggestions. These autosuggestions mostly are formed in the first hypnosis—*e.g.,* trembling, headache, and the like—and my experience teaches me that they are always curable. Such-like mishaps can generally, if not always, be remedied by an experienced person. Liébeault, and also Bernheim (at a later date), have pointed out that certain very peculiar phenomena, certain illnesses, and even deaths, which have been prophesied by the individual for a definite date, or which have been prophesied by fortune-telling for him, and which took place at the exact time, may depend on autosuggestion or suggestion. A person who has a hypochondriacal inclination may acquire a very marked loss of appetite, dyspepsia, and considerable wasting by autosuggestion. If we further consider that one can produce or prevent such a process as the menstruation of women at will by means of suggestion (I have experimentally postponed the menstruation in a woman for over two weeks), there can be no doubt that one can produce illness and possibly death indirectly (perhaps even directly) in a criminal manner by suggestion. If it were possible to suggest a cardiac paralysis or œdema of the glottis, for example, the possibilities of a direct death suggestion would be present. As we have seen, suggestion in itself is not attended with any disadvantages either of an hysterical or nervous kind, provided that it is properly carried out according to the Nancy method. And even if it should produce an unpleasant symptom, such as spontaneous appearance of somnambulism, a contrary suggestion is all that is necessary to remove it. I have never observed a harmful result in any of the three hundred and seventy-five tabulated cases, nor in the persons who have not been included in the statistics, whom I have subjected to hypnotism (apart from the temporary autosuggestions of headache, etc., which appear at times during the first hypnosis, and which can be immediately suggested away). But if suggestion be applied frivolously and exaggeratedly, if one neglects to remove the

before-mentioned autosuggestions of nervous symptoms at once, from want of thought or of knowledge, mild neuroses, at all events in hysterical subjects, may develop, without any bad intention on the part of the hypnotist. The principal danger of hypnotizing by non-medical persons and by medical men who have not grasped suggestion lies in this fact.

A sad case which took place in Hungary in 1894 seems to belong to this category. A magnetizer, believing in telepathy, who had not been medically trained, had repeatedly hypnotized a girl suffering from hysteria, whose general health was very bad, and who showed severe nervous disturbances. He had succeeded in improving her considerably. This extremely suggestible girl, who was supposed to be a *clairvoyante,* was then hypnotized. She was to diagnose the disease of a certain man at a distance, and to determine the condition of his lung. While in the condition of hypnosis, obviously picturing a diseased lung to herself, she began to speak about it, and then suddenly fell back dead. The autopsy only revealed anæmia and beginning œdema of the brain, which does not offer any explanation for the death. Could the terrifying conception of a diseased lung, which the somnambulist might possibly have for the moment thought was her own, have caused her death? Was it accidental? I believe, with Liébault and Bernheim, that the former is possible. One only learned of the case through the daily papers, although many details were given. Anyway, the case is of much importance.

One of the most peculiar and at the same time most important, if not actually the most important forensic aspect of suggestion, is to be found in the unconsciously produced—*i.e.,* suggested—falsification of memory (*hallucination rétroactive* of Bernheim) by a counsel when cross-examining the accused. I have already discussed this phenomenon. Just as one can wring a confession out of a child, a woman, or a weak man, of a suspicious deed by the power of skillful persuasion, so one can suddenly produce the suggestion in an innocent person that he is guilty. When this takes place, not only a complete confession of the crime, which he has not committed, is made, but all sorts of details of the most concrete kind, as we have

seen, are also hallucinated retroactively. It is just these details which serve best to show that one is dealing with a suggested falsification of memory, especially when they do not coincide with the actual facts which can be ascertained about the deed. An easy and very commendable control of experiment, when one is suspicious about this, consists in further suggesting to the accused details which one is quite sure cannot possibly have taken place. If he admits them as well, one can be tolerably certain that the whole confession was valueless—*i.e.,* depended on the suggestion of the barrister. One can prevent horrible legal murders in this way. I have come across a few such cases, and am convinced that they are at times erroneously mistaken for melancholia by asylum doctors, since similar false self-accusations occur in melancholia. We have also seen that certain " instinct liars " are only persons who are so suggestible that they constantly confuse their own conceptions and those conveyed to them by others with reality.

But not only false confessions, but also false witnesses, may be prepared in this manner. In the terrifying procedures which witnesses frequently are subjected to, and in the manner in which they are turned and twisted by the barristers, they will certainly often be induced to make statements which depend on suggestion. Bernheim and I are at one in this. The contradictions which one accuses them of are not always conscious lies: they are not seldom the results of suggestion. It is especially children who are dangerous in this respect, and the younger they are the more marked this is.

One must differentiate two classes of cases—(1) the case in which the suggestion calls forth its effects through the special action on the part of the inquisitor in a person who is otherwise inclined to speak the truth; and (2) the case in which the witness has always confused truth and imagination, because he has never been able to do otherwise.

The second case has been long recognized under all sorts of names, and is of secondary importance. One soon recognizes the type of such witnesses by their behavior in dealing with other things as well, or one learns of it by their reputation. They are regarded as habitual liars, and no weight is attached

to their statements. On the other hand, the first case must exercise the mind of the criminal lawyer greatly, for it can occur in really good persons, who bear evidence in all other respects in accordance with the truth, and have only arrived at a false recollection by suggestion. Of course, transition forms frequently occur also in this case.

Is a hypnotized person to be regarded under all circumstances as irresponsible? This question must be regarded in the concrete case as an extremely difficult, almost insoluble, one, after what has been said. As nearly all authors, including von Lilienthal, have done, one must naturally regard every person whose actions are completely governed by the influence of a suggestion as being irresponsible on principle. The hypnotist is responsible for his actions, for he has made use of them. But how are we going to carry this out in practice, when we think of the frequency of unconscious suggestions, which are not recognized as such, which occur all over the world without tangible hypnosis? Where are we to place the limits of responsibility in the concrete case in the finer shades of waking suggestion which I have already discussed? *Natura non facit saltum.* This old truth is applicable in this case also, and it gives the lie direct to our artificial categories, as it does in mental diseases.

As the authors, and also von Lilienthal, have already pointed out, a further great danger of suggestion lies in the employment of the same by the hypnotized person for the purpose of extortions of all kinds. This danger is so great that the presence of witnesses is more necessary in the interest of the hypnotist than of the hypnotized person. For further particulars I refer the reader to von Lilienthal's essay. The exigency of a person wishing to be hypnotized with the express purpose of having courage or getting off scot-free in connection with a crime suggested to him is also dealt with in the same article. Courage is sought in the cup by some people.

It is scarcely necessary to mention that I am in complete concord with von Lilienthal when he states that public exhibitions of hypnotized somnambulists ought to be rigidly prohibited, on the ground that they represent a gross nuisance

which is detrimental to public morals and public health. Such exhibitions may be compared with those of the insane or of physiological experiments. To my mind, the carrying out of hypnosis for gain should be prohibited altogether.

Finally, it appears to me that a frivolous or negligent use of suggestion, and especially an abuse of the same for egotistical purposes, even if they be not criminal, ought not to be neglected in jurisprudence.

Casuistic.—In one case an elderly, ugly female spiritualist succeeded in hypnotizing a rich young man to such an extent that he became entirely subjected to her influence, broke off from his relatives, who were very fond of him, and married the old witch. The latter was wise enough and tricky enough to keep him under her influence by her mental accomplishments and by means of sexual stimulation. Such-like and similar cases, in which one of the two sexes takes the active and the other the passive part, have undoubtedly always taken place. It might be desirable if definite legal measures could be adopted in these cases.

Another man told me himself that he had been influenced in a similar way for a time by a woman who had always magnetized him. She was skilled in hypnotizing and was nymphomaniacal-polyandrical as well. This man succeeded only with great difficulty in escaping from the clutches of this woman when she directed her attacks toward other members of his family.

In the Czynski case, on the contrary, the man had the active part. In these cases the passive party complains, as we have seen, of feeling the compelling influence; he becomes sexually stimulated. There is no question of a normal love, or even of a normal sexual attraction, but the feeling of impulsion and want of freedom reign supreme. The influenced person would like to escape, but cannot, even though the compulsion does not attain the brutal character of the well-known case of the criminal beggar Castellan, cited by Bernheim and others, who hypnotized a poor girl, took advantage of her, and compelled her to follow him.

Von Schrenck-Notzing's Views and Cases. — Von

Schrenck has taken up this question during the last few years.[1]

Von Schrenck divides the forensic cases, as I too have done, into—

1. Crimes on hypnotized persons.

2. Crimes which are committed with the assistance of hypnotized persons.

3. He adds a third category: criminal acts, induced by suggestion during the waking condition. I regard this category merely as a variety of the second, as will be gathered from my conception of suggestion (and also Vogt's).

Suggested evidence and self-accusation should figure instead as the third category.

To the first category a number of cases belong in which a markedly lethargic, deep, hysterical hypnosis was abused for sexual assaults. As a rule, the culprit was discovered and punished.

The following is a short résumé which von Schrenck gives of the most important cases:

"A certain patient writes in his autobiography that he rendered a young woman, who was tied to a decrepit old man, deeply somnambulic, and commanded her during this condition to perform certain onanistic manipulations with his genital organs. This she did, but did not remember anything about it after awakening. The sexual intercourse was continued for three months, and was not discovered. The lady, however, possessed a passionate disposition, and loved her seducer. He would in all probability have been able to possess her in the waking condition as well. He chose this peculiar hypnotic way, as he feared detection."

"Miss von B., daughter of a superior officer, was hypnotized by a clergyman, and raped while in the condition of somnambulism, and the sexual abuse was repeatedly carried out in this way. After nine months a child was born. The criminal prosecution of the culprit was not proceeded with, in order to avoid publicity. Later on, when Miss von B. had become engaged,

[1] Von Schrenck, "The Medico-Forensic Aspect of Suggestion." (*Archiv für Criminal-Anthropologie und Criminalistik*, August, 1900.)

her lover used the susceptibility which still remained from the past experiments in his fiancée for fresh hypnotic experiments; drew from her confessions about all sorts of details of her inmost self, and dictated his will to her by means of suggestion during the condition of deep hypnosis, when they had any difference of opinion. This mischief was only got rid of after my medical aid had been called upon, and an energetic hypnotherapeutic treatment had been instituted."

"Czynski [see above] had hypnotized the Baroness for medical reasons, and having got her in such a deep hypnotic condition that she was no longer capable of evincing her own will, he suggested his love for her, with the assistance of kisses and caresses. After six or eight hypnoses of this kind, he succeeded in getting her to yield herself to him, in spite of the fact that she did not return his love. Her resistance had been artificially broken down by hypnotic means, love suggestions in connection with actual touching of her body, as well as by influencing her phantasy during waking. Czynski had therefore obtained the acceptation of his love proposals with the help of easily carried out suggestion. The jury acquitted the accused in respect to this part of the charge (offense against morality), probably on account of the legal interpretation of the act, or possibly because the Baroness later yielded herself voluntarily to her seducer. But in spite of this, there can be no doubt about the crime of the accused, and therefore about the criminal use which he made of the hypnotic condition by means of intentional suggestions. In this instructive case, therefore, the decision of the hypnotic specialist will differ from that of the lawyer."

"Laurent reports a case of this kind in which a medical student hypnotized a cousin of his, whom he had put in the family way, and suggested to her the symptoms of abortion for a definite time (*suggestion à échéance*). The abortion set in at the required time."

"Johann Berchthold, triple murderer. Since the mysterious uncertainty which attached to the deed was not cleared up after the discovery of the murder, a portion of the München daily press began a kind of preliminary examination. Notices ap-

peared daily in the most-read journals about the murder for nearly a month, as well as critical remarks about the unsatisfactory arrangements for public safety and of the police arrangements of the Isar town. Besides, the Government offered a reward of 1,000 marks for the detection of the murderer. Furthermore, the *Münchener Neueste Nachrichten* invited any one who knew anything of the matter to report it to the editorial staff, promising the strictest confidence. The material gained in this way formed matter for publication, and satisfied the cravings for sensational news. After several persons had brought forward matters relating to the occurrence, this journal declared at the time, before the magistrates had completed their preliminary investigations, 'that there was practically no doubt that Berchthold was the murderer.' The result of this behavior of the press was that numerous persons offered themselves as witnesses, and gave evidence on oath, making statements which represented the most obvious contradictions. Apart from this, the photograph of Berchthold, which had been published in the papers, caused several persons to have undoubted reactionary falsification of memory. Several female persons swore that this man—or some person bearing a striking resemblance to him—had attempted to gain admission into their houses, in the same way as admission had been gained into the houses of the murdered persons. Added to this, there was the evidence of undoubtedly hysterical persons and the adventurous relations of doubtful and repeatedly convicted individuals, and the only argument for the trustworthiness of this evidence was that it was given on oath. The suggestion exercised by the press in favor of the guilt of the accused had therefore not failed in its action. The defense assumed this standpoint, with the result that the magistrates had to desist from calling a number of witnesses for the prosecution. But the proof independent of the evidence of witnesses, the past life of Berchthold, his insufficient attempt to prove an alibi, his whole behavior—all were so much against him that the jury would have found him guilty even without taking into consideration the 'psychical epidemic' produced by the press. The difficult duty of the experts (Grashey and von Schrenck-Notzing) lay

in discovering the source of error of the memory, and in reporting on the mental condition of a number of witnesses in respect to the trustworthiness of their evidence.

"Whether one believes that Berchthold was guilty or innocent, the trial indisputably showed up the fact that part of the evidence of witnesses was inspired by the newspapers. In what other way can one explain, *e.g.*, the curious circumstance that, during the fourteen days' proceedings, not less than seven persons surrendered themselves with the statement that they had committed the murder of the Roos family? Among the two hundred and ten witnesses called there were eighteen whose evidence could be referred to the influence of the newspaper notices. One of these, for example, stated 'he had noticed the accused in the neighborhood of the house in which the deed had been committed (a house in Karl Street) three times at a certain hour on a Friday afternoon, and had recognized him again at once, after the publication of the photograph.' But the fact that the same witness had been present at a trial in the courts at the hour mentioned on that particular Friday contradicted the evidence, which was given on oath. As he could not have been in two places at one time, the value of his evidence could be judged from this. Six other witnesses—all female householders of the town of Munich—stated on their oath independently that they had been visited by a suspicious-looking man, who had attempted to gain admission on the pretext of having to do something to the arrangements of the water-closets. They only recognized the suspicious person as the accused Berchthold when his photograph had been published. More than this, one of the papers represented Berchthold wearing some clothes which he had never worn. One of the witnesses said that she noticed these clothes on the suspicious person, although they were only in Berchthold's possession in the imagination of the artist, and not in reality.

"In short, the result of this proceeding, which is so very interesting for the doctrine of suggestion, teaches that the authorities still lack a proper knowledge of the suggestive factor in law cases; that the number of persons who give evidence on oath in good faith untruthfully and inexactly is much greater

than one usually supposes. Above all, it has brought new proof of the suggestive power of the press."

"On October 2, 1899, the wife of the butcher Sauter was charged before the Upper Bavarian Criminal Court in Munich with attempted murder, and with inciting to murder nine persons.

"German law punishes attempts and incitations to crime, even if they are undertaken with inefficacious means. The prisoner was accused of having attempted to kill her husband, with whom she had lived unhappily, by strewing gentian root into his socks. This, in her opinion, was supposed to be a means of killing; it had been advised to her by a fortune-teller. Apart from this, she was charged with having incited the fortune-teller to kill by magic means nine persons who stood in her way, among whom were three of her children, two former servants, etc.

"The prisoner was at her menopause, suffered considerably from pelvic troubles, and showed marked signs of hysteria. Being extremely superstitious, she regarded the fortune-teller, whom she consulted on every important occasion, as a person endowed with supernatural capabilities and with the power of determining the fate of persons and of life and death. The fortune-teller, on the other hand, stimulated the imagination of Frau Sauter by all sorts of humbug, and was able to profit materially, and systematically to fleece her victim. This fortune-teller, it was proved, had been convicted twenty-one times previously for serious offenses. The court had no doubt that the fortune-teller was really the guilty party. She had been able, by her swindling, to convince the credulous prisoner, who had fallen entirely under her influence, that it was very easy to cause all persons who stood in her way to die a natural death, and it was she who had in this way first suggested to her the whole plan of the murder, albeit unintentionally. As these ideas took hold of the prisoner, the prophetess informed against her victim to the police, and induced Mrs. Sauter to discuss the whole murder plan once more, and to make up a list of the people whom she had determined to remove, so that the detectives, who were hiding in the adjoining room, could hear it all,

and could appear as the principal witnesses for the prosecution.

"While the reports of Messerer and Focke came to the conclusion that Frau Sauter was in possession of the exercise of her freewill at the time of the deed ascribed to her, the report which I gave led to the proof that the accused, fascinated by the fortune-teller, had carried out the ideas of the latter while in a condition of suggestive dependence; that her responsibility had been materially diminished as a result of hysteria, as a result of her menopause, and as a result of superstitious conceptions.

"The jury acquitted the prisoner on both charges.

"The Sauter case represents the first acquittal of an accused person who had committed a breach of the law under the suggestive influence of another person, and is therefore of principal and lasting importance for the doctrine of the relationship of suggestion to criminal law."

"About seven years ago a five-year-old girl was placed under my treatment. This child suffered from 'destructiveness,' which extended itself in the most cunning way to the most valuable possessions of the family. The parents never succeeded in catching the child red-handed. The deeds always took place when their backs were turned or when they were absent. Once the child was found in flames in bed. The numerous frequently repeated thefts and destructions, which were carried out in a very cunning manner, caused the parents considerable material losses. Educational influencing and punishments failed to improve matters. The child cried, and confessed fresh misdeeds. At last the child was chained up and treated hypnotically, but the criminal deeds nevertheless continued. After nine months an accidental circumstance disclosed the truth. The child went into the country with her parents, while her nurse stayed in town. From this moment the destructions ceased. It was now discovered that the child was absolutely innocent, but that the hysterical nurse had committed the deeds, or had caused them to be carried out. She knew how to continuously suggest the consciousness of guilt to the child placed under her care in such a way that the latter had stood all the

punishments for nine months without a murmur, and repeated the confessions, which had been suggestively dictated to her, without ever betraying her tyrant."

"False accusations of medical men and hypnotists for sexual misdeeds are much more frequent than proved real immoral acts on hypnotized persons. Even in the case of actual seduction, the excuse that they were the victims of a suggestive impulse is not uncommon. Altogether, false accusations of immoral offenses are very common.

"The assistant medical officer of a large Munich hospital hypnotized the thirteen-year-old Magdalena S. for medical purposes in his room without any witnesses, and was thoughtless enough to pass urine in the presence of the hypnotized girl during the time when she was asleep. Shortly after this occurrence he was charged by the Public Prosecutor with having put his genital organ into the mouth of the hypnotized child, and having micturated into her mouth. The accusation depended on the statement of the thirteen-year-old child. On being asked to give my opinion on this case, I soon came to the conclusion, after a careful examination of the facts, and on examining the child, that the matter dealt with a dreamy, illusionary warping of conceptions during the hypnotic condition; this took place in connection with the passing of the urine. The retroactive pseudo-reminiscences had been exaggerated in the waking condition by imagination and by discussing the matter with her relatives. And thus the simple product of false autosuggestive interpretation of conceptions in hypnosis and of reactive falsification of memory became the basis of a heavy charge, which threatened to ruin the whole future of our colleague. The result of my report, as I have already said, was that the charge was withdrawn."

Von Schrenck continues: "Opinions and judgments which we read unconsciously infiltrate our thinking, govern the direction of our ideas, and have a powerful influence over the molding of our memory. A confusion of what has been personally experienced and of that which has been heard or read takes place all the more easily if the contents of the subject in question had previously absorbed our interest. The truth of repro-

duction suffers when there is a want of critical deliberation, when there is a lively imagination, and also at times when psychical excitement (emotions) or tiredness are present. If the elements of a momentary situation are carried over to the impressions of memory the situation may be easily falsified in the sense of a new perception (*cf.* the influence of the appearance of Berchthold's photograph on the remembrance of the suspicious visitor). These external stimulations may exercise a suggestive influence, and may offer a suitable site for sources of error in our memory. A complete picture can be made up of fancy and truth in this way, as it was with several of the witnesses in the Berchthold trial, without it being possible for the psychological expert always to detect the correct cause for the individual portions of the impression of memory.

" One must therefore regard it as an error in judicial examination if the details of the remembrances in the evidence of witnesses are too much overrated. Altogether, the sources of error of memory receive much too little attention in the court of law. An intimate knowledge of them would protect the judge from falling into the dangerous mistake of confusing perjury and falsification of memory. He would thus be capable of distinguishing more easily the nucleus of truth from the product of suggestion. Apart from this, he would impose greater reserve in hearing of witnesses, so that no details in the evidence would be suggested to them. A careful estimation of the doctrine of suggestion would cause the organizations for the safety of the public to limit the influence of the press on criminality, which is still greatly undervalued.

" The judging of the conditions *in foro* becomes difficult if, as in the Sauter case, the intellectual originator (in this case the fortune-teller, Frau Gaenzbauer) has absolutely no conception of the lawlessness of her actions, and of having committed a crime. We are therefore dealing with unintentional, unnoticed influencing. For Frau Gaenzbauer was obviously not cognizant that she had excited in Frau Sauter the trend of ideas aiming at the removal of her husband and of other persons by her superstitious humbug. She was completely ignorant that on the occasion of the demonstration before the hidden detec-

tives she had, so to say, dictated the whole murder plan to her victim, and that she conducted the whole conversation in this way, according to the procedure agreed to by the police. The court of justice is not in a position, under these circumstances, to punish either the originator or the person who has carried out the deed, since it is impossible to prove a criminal intention.

"There is scarcely a sphere of human error which offers such a favorable basis for the development of suggestive action as does superstition. This always presents itself, as Loewenstimm has so ably described, as a product of the ignorance and undeveloped condition of whole classes of people, and leads not infrequently to the committing of extraordinarily cruel crimes."

The results of von Schrenck's account are summarized as follows:

"1. Crimes committed on hypnotized persons and those committed with the help of hypnotized persons (posthypnosis) are almost entirely limited—

"(*a*) To sexual misdeeds (*e.g.,* Czynski case, 1894).

"(*b*) To the dangerous abuse of hypnotized persons (public shows, the exhibition of the mysterious).

"2. Suggestion in waking condition possesses a medico-forensic importance, which has hitherto not been realized in its full extent. For—

"(*a*) It is capable of causing persons who are mentally perfectly normal to give false *bonâ fide* sworn evidence (*e.g.,* the eighteen false witnesses in the Berchthold trial, 1896; influence of the press; psychical epidemics).

"(*b*) It can impel persons who are specially susceptible to suggestive influence to commit criminal acts (Sauter case, 1899).

"3. Generally speaking, criminal suggestions are not dangerous for normal individuals with well-developed moral resistance, but, on the other hand, the following fall an easy prey to it: childish, psychopathically inferior, hysterical, psychically weak, ethically defective individuals, in whom the possibility of resistance is diminished by a feeble cultivation of the moral balance."

I am in full agreement with von Schrenck-Notzing that legal

measures are required against unauthorized hypnotizing by non-medical persons. A person who is particularly gifted in hypnotizing might be allowed to hypnotize for scientific or therapeutic purposes under the supervision and responsibility of a medical practitioner.

But the mischief that is done by hypnotism by careless or greedy persons under the name of spiritualism, telepathy, clairvoyance, fortune-telling, and the like, as well as for fun and for show, is increasing into dangerous dimensions. One ought not to be allowed to interfere at will with one's neighbor's brain, any more than with the rest of his body or with his money. Unfortunately, one gives the laity a perfectly free hand, and is always prepared to blame the medical man.

As a matter of fact, the harm done by, and the crimes which are ascribed to, suggestion are mostly the work of the laity, and especially of the spiritualists. These persons do not realize that they work with the brain of their usually hysterical mediums, and impose things on these latter which in time do grave damage to health, even when deceit and assaults are not coupled with it. Regular epidemics of hysterical attacks, autohypnoses, and the like, have been produced in this way. The laity fails to understand how to avoid autosuggestions and how to remove them.

It is not my duty to make suggestions for laws. But we must insist that more attention be paid to this subject in the future than has been paid in the past, and that at least a medical supervision be introduced.

CHAPTER XIII

HYPNOTISM AND THE MEDICAL SCHOOLS

The postulate mentioned in the preceding chapter proves conclusively that it is the duty of the medical practitioner to know and understand suggestion, even if the reader has not been convinced of this in the earlier chapters. Unfortunately, this is still far from being accomplished. The majority of medical men are still lay and ignorant persons in respect of the question of suggestion.

In this respect there exists a serious gap in our medical studies. Medical practitioners are mostly extremely ignorant not only in the suggestion question, but also in psychology and psychophysiology, and for this reason they are incapable of comprehending the doctrine of suggestion. They interpret the matter almost as lay people do, and are frequently inclined to wander over from "materialism" to "spiritualism," or, at all events, to "telepathy," evidencing a want of critical spirit, since the relationship of psychology to the physiology of the brain appears to them to be "a dark, uncanny sphere." They have followed their studies from the beginning to the end without taking cerebral life and its influence on the body into consideration. Only a few attempt to educate themselves thoroughly on this point later on. How can one ever understand the normal and pathological man without understanding his brain and its functions?

A large number of the worst mistakes of our numerous specialists arise from this. They seek the causes of central disturbances in the periphery of the body, because the psychophysiological mechanism is incomprehensible to them.

It suffices to have pointed out this defect, in order to show that the filling out of it has become an urgent need. The study of modern psychology, psychophysiology, and the doctrine of

suggestion (the latter in connection with a small clinic or out-patient department) ought to be rendered possible in every medical school.

It is only in this way that a successful struggle against superstition and quackery will be possible, and that the medical practitioners will be able to escape making those awkward blunders which the laity nowadays is on the look out for. In this I am only speaking of the results of empirical practitioners, and do not even include the attacks which could be made on them by psychologically trained non-medical persons. It is clear that if the medical practitioner diagnoses and treats a local disturbance, which does not exist, through his ignorance of suggestion and of the phenomena of pathological autosuggestion, or else if he goes to the other extreme and suspects the patient of malingering, he will lay himself open to being laughed at by the first quack whom the patient consults, or by one of the religious magic institutions. These blunders act like so many harmful stabs inflicted on science, its earnestness, and its dignity.

Bernheim has already shown that the magic of the "stigmatized" Luisa Lateau undoubtedly depends on suggestion, as he was able to obtain the same by suggestive means. The same applies in my opinion to the "miraculous cures" which are attained in Protestant so-called "prayer" institutes.

In Zeller's institute in Maennedorf, Canton Zürich, *e.g.*, Mr. Zeller lays his hand (the right or the left) on the naked affected part of the body for a definite length of time (laying on of hands in accordance to the Bible), repeats this procedure according to the requirements, and in this way obtains the cure of pains, paralyses, etc. A second form of laying on of hands which is employed there is the "anointing with oil" (also from the Bible). The hand is moistened with cold olive oil, and "laid on" in the manner before-mentioned. Mr. Zeller, who told me this himself, ascribes the chief power to the prayer connected with the procedure, and believes that he can disprove the assertion that "it is magnetism," since he does not employ any passes (strokings). But the Nancy school does not employ these either.

However, that Mr. Zeller suggests his patients intensely without realizing it, both verbally and by touching the affected part, is quite obvious from what has already been said. Apart from the absolutely different explanation, his curative method is extremely like Liébeault's method of suggestive therapy, only it would seem that waking suggestion is mostly applied.

It has always been a high ethical and cultural privilege of the education centers and of science to illuminate into the darkness of superstition and of ignorance with the torch of knowledge. It is therefore disheartening to see how just these centers still behave toward the doctrine of suggestion and the newer psychological investigations, hesitatingly, timidly, and even opposingly, although no other discipline is capable of throwing so much light on the modern forms of superstition.

CHAPTER XIV

SUGGESTION IN ANIMALS—THE WINTER AND SUMMER SLEEPERS

Liébeault[1] has referred the winter sleep of the dormouse to psychical causes analogous to suggestion, and proved already at that time that cold could not be the cause of this sleep, since the same animals not infrequently slept in summer and in warm rooms, and because a Madagascar mouse regularly falls into lethargy during the warmest time of the year.

I myself have made the following personal observations:[2]

In the year 1877 I was in Munich. I was offered two dormice (*Myoxys glis*), because their owner had been bitten by them. He gave them to me in the winter, and I was astonished to find that they were not asleep, but that they were very lively, which I ascribed to the warmth of the room. I placed them in a wire cage, standing some five to six feet high, in the middle of which was a small fir-tree of the same height. I allowed the little animals to run about in my room besides. They remained lively all through the winter, and ate up a large quantity of walnuts and hazel-nuts. When one of them was gnawing through the nutshell with much difficulty the other came up behind noiselessly, and tried to snatch it away from the first. They remained wild and inclined to bite.

After having eaten a lot during the whole spring, they became very fat, and I was not a little surprised to see them fall into a lethargic sleep one after the other in the month of May. This was contrary to the assertions of the books, which state that the sleep is the result of the winter cold. They had got as fat as little bears, their movements had become slower, and they crept together into a corner and became completely lethargic. Their body temperature sank while they were in this condition,

[1] Liébeault, "Du Sommeil et des États Analogues." (Paris, 1866, Masson.)
[2] Forel, *Revue de l'Hypnotisme*, April 1, 1887, p. 318.

their respiratory movements became slower, and their lips cyanotic. When put into the open air the animals, which were more or less rolled up, stretched themselves partly when turned on their backs. On pricking them with a needle, they made a reflex movement, and uttered a mild grunt or hiss. I was able to awaken them for an instant by stimulating them strongly, but they relapsed into their lethargy as soon as I left them alone again.

I then made the following experiment: I took one of the dormice and placed it on the top branch of the fir-tree. Although it was asleep, to bring the sole of its foot into contact with the thin branch of the tree was sufficient to call forth a reflex flexion, by means of which it clung to the branch with its claws, just as it would have done had the corresponding instinctive movement taken place during the waking condition. I then let the dormouse go, hanging on one branch with one foot. Soon it gradually sank into a deeper sleep again. The muscles of the clinging foot slowly relaxed, the polar or plantar surfaces of the foot extended themselves slowly, and after a short time only the extremity close to the claws held on to the branch. I thought that my dormouse would have fallen. However, as it was beginning to lose its balance, its nervous system was pervaded by a sort of instinctive flash, and the other foot grasped that branch which lay next lowest, so that the animal had thus climbed down one step. The same scene then began again: the dormouse went fast asleep again; the foot relaxed again slowly, until it nearly let go, then the other foot grasped a branch lying a little lower. In this way the animal climbed down the tree from the top to the bottom without awakening or falling until it arrived at the floor of the cage, where it continued to sleep. I repeated the experiment several times with both dormice, always with the same result. Neither of them fell on a single occasion.

The lethargic sleep of my dormice, although interrupted from time to time for a few hours or even a day by more or less complete awakening, during which time they took some food, lasted for the greater part of the summer, and gradually left off in the month of August. The little animals had slept

through the great heat of June and July. They were considerably wasted toward the end of their lethargic sleep—still, less than I had expected. During the lethargy their body temperature was about 20° to 22° C., as far as I could measure it with a very imperfect thermometer.

These facts prove conclusively that the so-called winter sleep of the dormice does not depend on low temperatures. Perhaps the nutrition, and especially the accumulation of fat in their body tissues, plays a leading part in it. But it seems to me to be probable, from the observations recounted above, that this condition, independent of what cause produces it, is closely related to hypnosis on the one hand and to catalepsy on the other.[1]

It is a fact (Liébeault, Bernheim, Wetterstrand) that one can produce a deep, long-lasting catalepsy, with slowing and weakening of all the living functions, in man by means of suggestion under certain circumstances. It is further certain that the dormouse never sleeps, when it is free, outside its nest, that it makes its preparations for the sleep, and that in consequence the setting in of the sleep depends up to a certain degree on association conceptions. My observations prove that even during the lethargic sleep certain purposeful movements can be incited by sensory stimuli. The relatively sudden transition from the waking to the sleeping condition and the reverse, and also the temporary awakening and going to sleep again mentioned above, speaks in favor of the part played by suggestion in the winter sleep of the dormouse. These facts appear to me

[1] It was only after publication that I became aware of an earlier work of Quincke's ("On the Thermic Regulation in the Marmot, *Archiv für experimentelle Pathologie und Pharmakologie*, vol. xv.). The author presumes, on the ground of experiments, another (internal) cause besides cold for the onset and termination of the winter sleep. He writes: "It appears to me as if on awakening (and becoming warm) movements and reactions may take place even during lower temperatures, and on going to sleep (becoming cold) these become sluggish even during higher temperatures. For this reason I think that the alteration of the body temperature only follows the onset and termination of the other symptoms of sleep, and does not produce them. The going to sleep again after spontaneous awakening (in winter, etc.) takes place at very different rates in different individuals. This, too, shows that, although the external conditions—rest and suitable temperature—are necessary conditions for the onset of the winter sleep [this is, as we have seen, an error—Forel], the actual cause for the onset must be another (internal) one." Quincke saw the temperature sink in the marmot down to 7° and even to 6° C. during the winter sleep.

to prove that the appearance of the lethargy depends on two components: (1) The accumulation of fat, predisposing to somnolence; and (2) the suggestion acting on the nervous centers through associative means.

I now come to the celebrated *experimentum mirabile* of Athanasius Kircher, which the keen-sighted Padre had already entitled "On the Power of Imagination of the Hen." It is true that the experiment, in which a hen was bound tightly and rendered rigid by means of a chalk line, had been carried out by Daniel Schwenter (Nürnberg, 1636) before Kircher performed it. Schwenter ascribed the rigidity of the hen to fright. This has been reported by Preyer (*Hypnotismus,* 1890).

The physiologist, Professor Preyer, took up these experiments again in 1872–1873, according to Czermak, employing several animals, and, adopting the views of Schwenter, referred the rigidity to fright, because the animals are said to show trembling, peristalsis, panting respiration, and anæmia of the head. He called this condition, therefore, cataplexy, or fright rigidity. I have never been able to reconcile myself to this Schwenter-Preyer theory of cataplexy, chiefly because tame animals, like guinea-pigs and hens, are the most easily rendered "cataplexic," without it being necessary for one to frighten them; while frightened wild animals do not fall into this condition so easily. Further—and this is of great importance—there is an unmistakable analogy between these conditions and hypnosis.

In attempting to prove cataplexy and his lactic acid theory of sleep, Preyer made the statement that there is no instance in which ordinary sleep sets in suddenly—that it always sets in gradually. This is certainly incorrect; in certain persons sleep sets in with very marked suddenness; and I can further prove to every one who will visit me that I can hypnotize a person as quickly as lightning, without allowing a trace of fright to appear, and Charcot, Liébeault, Bernheim, and others have done the same.

Professor Preyer goes on to say that he had intentionally examined animals, because they do not malinger. I am sorry to be compelled to contradict him again in this. We have not

inherited simulation, together with so many other minor qualities, from our betailed ancestors in order to dispute them away now. Animals simulate very nicely; even insects know how to pretend to be dead, and do not by any means need to be rigid from fright—according to Preyer, cataplexic—for this purpose. I have watched the method of life of insects very closely, and am absolutely convinced, from innumerable small incidents, the value of which is only recognized after continuous exact biological observations, that the rigidity of insects pretending to be dead is never due to fright, which would render them incapable of moving. It certainly is due to artfulness—although this may be an instinctively automatized (organized) artfulness—which, being associated with the idea of self-preservation, is set into action when danger looms near. I may remind the reader of the cunning of mammalian animals. I might almost say that it is easier for the psychologist, at all events, to detect simulation in the majority of persons than in animals, since one can get at the matter later on by means of speech quite easily with human beings, which is impossible with animals. Apart from this, we have seen that one has to be very careful as to how one deals with the idea of malingering, and that it is foolish to suspect everybody of conscious malingering in order to jeer at us. One will be misled a hundred times by unrecognized suggestion to every one time when one is duped by conscious malingering.

Professor Danilewsky, of Charkow,[1] has carried out extensive experiments on hypnosis in animals, from the crab to the rabbit. The abnormal position in which one places the animal and the continuous mild but consistent overpowering on the part of the hypnotist are most effective in producing this condition. Danilewsky proves that fear itself is often absent, and ascribes hypnosis of animals beyond doubt to suggestion. He says that, of course, one cannot talk of verbal suggestion in these cases. But the influence on the more simple conceptions of the animal is absolutely homologous to that of suggestion. The animal understands intuitively the suggestive command, subjects to it,

[1] Professor Danilewsky, "Compte rendu du congrès international de psychologie physiologique de Paris, séance du 9 août," 1889, p. 79. (Paris, 1890.)

and becomes hypnotized. Danilewsky has determined a number of symptoms of human hypnosis in this way in animals; not only the muscular rigidity, but also, *e.g.,* extreme anæsthesia, and so on. The hypnosis of man, says Danilewsky, has the same basis phylogenetically as that of animals; one is dealing with the same psychophysiological mechanism, only it is much more complicated in man. The action of the fixed look of a person—*e.g.,* on a lion—is distinctly of a suggestive nature. Danilewsky's experiments are to be published *in extenso* separately. I must add that all suggestive actions in animals possess a much more instinctive, more reflex character than in man, since the activity of the lower nerve centers in the former is much less governed by the activity of the cerebrum. They (animals) are much more directly under the influence of peripheral sensory stimuli. This is not a difference in principle, but only in degree, for the cerebral activity is not different in principle from that of other nerve centers (*cf.* the experiments of Isidor Steiner with fishes).

I must therefore refuse the theory of cataplexy, and ascribe, with Danilewsky, hypnosis of animals to a simplified, more automatic suggestion mechanism, which mechanism can be induced at times by means of fixation of the look and the like. In reference to this mechanism we, too, are undoubtedly automatons to a greater or smaller degree. The lethargic sleeping condition of the dormouse and several other mammalian animals is a simple physiological cataleptic condition, which is induced or introduced by the action of suggestion, phylogenetically adapted to a definite purpose and inserted into the linkings of instinct (see O. Vogt's theory of sleep).

CHAPTER XV

APPENDIX—A HYPNOTIZED HYPNOTIST

Professor E. Bleuler[1] writes on the "Psychology of Hypnosis" as follows:

"Very few self-observations by hypnotized persons have so far been published. The following notice may therefore be of some interest:

"After I had often attempted in vain to allow myself to be hypnotized by other methods (among others by Hansen), my friend Professor von Speyr succeeded in placing me in a hypnotic sleep according to Liébeault's method (verbal suggestion and fixation). In order to assist the conception of sleep, I had gone to bed (it was already somewhat late in the evening). I was quite willing to become hypnotized, but attempted during the hypnosis to back out of the majority of the suggestions in order to learn the power of the latter and their influence. Since the strained fixation did not exercise any soporific influence on me, and pure verbal suggestion seems to have but little effect on persons who themselves hypnotize, I employed the following little trick: I had carried out experiments on myself some years before on the importance of peripheral retinal pictures, of accommodation, etc., for the apperception of visual pictures, and had discovered that by certain inexact fixing a definable but alternating portion of the visual field is completely excluded—*e.g.*, if I looked at a framed picture, the one side of the frame. The exclusion of this caused exactly the same subjective phenomena as the blind spot when brought to consciousness. I therefore fixed the eye of the hypnotist in this way,

[1] Professor E. Bleuler, "Psychology of Hypnosis." (*Münch. Med. Woch.*, 1889, No. 5). My colleague Doctor Bleuler, now Professor of Psychiatry in Zürich, had himself hypnotized a great deal at the time of writing, and had completely mastered the method. See also his publications on Hypnotism. (Forel.)

which was familiar to me. The defects in the visual field which appeared assumed a much greater expansion, probably as a result of the accompanying verbal suggestion, than I had ever noticed before. Soon the objects still perceived by me became hazy, then I felt a slight burning, and then a somewhat more marked dampness of the eyes, and at length I only saw light and shadow, but no longer the outlines of any objects. To my astonishment, this condition did not tire me; my eyes remained quietly and wide open without an effort and without blinking; a comforting feeling of warmth crept from my head over my body down to my legs. It was only in response to suggestions pointing in this direction ('Your eyes will close of themselves') that I felt the need of closing my eyes (up to that time I had the feeling that I could only close them by making an effort), and closed them apparently actively, as one does on going to sleep quickly when one is tired. The hypnotizing had taken about one minute.

"My condition then was that of a pleasant, comfortable rest; it occurred to me that I was not in the least inclined to alter my position, which, under other circumstances, would not have been actually comfortable. Psychically I was quite clear, observing myself; my hypnotist was able to confirm all the objective things, which I told him of, later. My conceived thoughts were not influenced in a different way to the waking condition during the following suggestions, but in spite of this the greater part of them were realized. I did not fix my particular attention on the hypnotist, but did so on myself alone.

"My friend placed one of my forearms horizontally in the air, and told me that I could not put it down. I tried to do this directly afterwards with success, but was prevented from carrying this out completely by a light touch of his hand and by renewed suggestion. I then felt my biceps contracting against my will as soon as I attempted to move my arm by means of the extensor muscles; once, on making a stronger effort to carry out my intention, the contraction of the flexors became so energetic that the arm, instead of moving outward as I had intended, moved backward on the upper arm.

"Then my friend said that my right hand was anæsthetic.

I thought to myself that he had made a mistake in this, as it was still too soon for such a suggestion, and when he stated that he had pricked me on the back of the hand I thought that he was trying to deceive me to make me more confident. I only felt the touch of a blunt object (I thought that it was the edge of my watch). On awakening, I was not a little astonished to find that I had been pricked. He did not succeed in producing real anæsthesia; only once when he remarked that the hand was as if it had gone to sleep I felt a tingling sensation for a short time, and only felt a touch as if through a thick bandage.

"The suggestion was then given me to awake at 6:15 A.M. (I had never been able to awaken at a previously determined time). I was then supposed to open my eyes and to blow out the lamp. I did this so clumsily that I felt somewhat ashamed that my friend should see me. It seemed as if my stereoscopic vision was impaired; I wanted to hold my hand obliquely over the lamp-glass to deflect the air-current produced by blowing, but held it at one side several times, without noticing it. Then I held the hand over the flame for a considerable time without feeling any pain, which I could not have done without hypnosis without feeling considerable pain of burning. The frequently and energetically repeated suggestion to awaken at 6:15 A.M. had an unpleasant result. I did not awaken during the whole night, but I believe that I kept on thinking whether it was not yet a quarter-past six. As I was fairly conscious of my position, from time to time I tried to listen to the church clock so that I could reassure myself, but I did not hear it strike a single time, although my room is situated opposite the church tower. It was only when six o'clock struck that I counted the four quarters and then the six hour strokes, but without awakening. Exactly at the stroke of 6:15 there was a knock at my door, and I awakened immediately. The next time the suggestion of awakening at a definite time succeeded without any disturbance after a pleasant sleep, as the suggestion was applied differently.

"On the following evening I was hypnotized twice lying on the sofa by Dr. von Speyr, and on the following day once by

Professor Forel. The experiments mentioned were repeated with great ease, and, further, an arm was rendered rigid, and certain acts were required of me. The suggested analgesia often lasted for such a short time that when other suggestions were given immediately the pricks, which I had only felt as touches while they were being made, began to pain during the same hypnosis. Painful stiffness of my legs after a long walk, on the other hand, disappeared permanently after a few suggestions. When the impossibility of carrying out a certain movement was made to me I no longer observed the contractions of the antagonists so frequently. The power over my will appeared to be interfered with; my muscle would not contract, notwithstanding all my efforts. In the later suggestions my will had become so weakened that I no longer innervated at times, contrary to my intentions, because the vain attempt was too exhausting, or because I did not think for the moment of opposing the suggestion. When I was required to perform an act I was able to struggle against it for a long time. At length, however, I carried it out, partly from want of will-power to resist it, just as one gives in to a reflex which costs a great effort to resist. At other times I felt that the movement was made without any active taking part of my ego, this being especially marked with unimportant commands, such as the lifting of a leg. I had the feeling on several occasions of giving in in order to please the hypnotist. But since I was still mostly clear enough in such cases during the carrying out to attempt to resist, the uselessness of the latter convinced me of the incorrectness of my views. I felt every new suggestion, even the command to desist in an act which I had begun, at first to be unpleasant, and this made the resisting easier for me. I was able to oppose the order to fetch something outside the room with comparative ease, but could not do so when the act was divided up into its component parts—*e.g.,* when I received the suggestion to move one leg, then the other, and so on until the act was accomplished.

"I was able to resist the carrying out of a posthypnotic suggestion. However, this cost me considerable trouble, and if I forgot my resolve for an instant during talking not to take any notice of the plate, which I was supposed to place somewhere

else, I suddenly found myself fixing this object with my eyes. The thought of what I had been ordered to do worried me until I went to sleep, and when I was in bed I nearly got up again to carry it out, merely to ease my mind. However, I soon fell asleep, and the action of the suggestion was then lost.

" It was only possible once to call forth a hallucination. Professor Forel commanded me to put my finger into my mouth, and I would find it taste bitter. I expected to find a bitterness like that of aloes, and was very astonished to perceive a sweetish bitter salt taste, so that I believed that my hands must have been soiled. On awakening, a control showed that my fingers were free from any substance possessed of a taste. It therefore appears that the suggestion in this case had worked differently on my conceived thoughts than on my unconceived ones; the latter determined the realization of the suggestion.

" My consciousness was scarcely changed. However, after awakening from the two last hypnoses, in which amnesia had been suggested to me, although not very intensely, I had some difficulty in recalling everything. The temporary sequence of the experiments remained forgotten, while I could recall the logical connection to mind. I did not retain any recollections for a brief period of the third hypnosis. Once when the hypnotist made me lie quite quiet, slight traces of hypnogogic hallucinations made their appearance (I had attempted to study these several years ago).

" The awakening took about ten seconds in response to suggestion, against my will and unaccompanied by any marked symptoms, and was similar to the awakening from a light sleep.

" The condition in which I had been must be considered as being a milder degree of hypnosis, since no amnesia had been present. As is frequently the case, it could not be classified exactly according to the degrees of hypnotic sleep formulated by the various investigators. However, I have observed apparently identical conditions on several other occasions.

" The publication of further self-observations by educated persons is much to be desired, and would assist not inconsiderably in understanding hypnotic phenomena. For the present

it would be important to know if the subjective symptoms of hypnosis are as enormously manifold and varying as are the objective symptoms, or if there may perchance be some regular rule in this respect."

I myself experienced a sort of autohypnosis some time ago (1878), when going to sleep on a sofa or in an easy-chair in the afternoon. I was only able to awaken myself with difficulty, and at first only partially, so that to begin with only certain muscle groups awakened—*i.e.*, could be voluntarily moved—while the rest of the body remained cataleptic. At the same time partial dreams occurred (hallucinating of steps or of movements, which I really had not made, and the like).

Bleuler's observation is very instructive, for it shows very clearly the important part which the hypoconceived cerebral activity plays in suggestion.

A certain Dr. W. Gebhardt reproduced improperly, under the title "Medical Certificates," in an advertising prospectus which he circulated all over the place, quotations from the third edition of this book (cures), to which he appends my name without mentioning the source. This gives the impression that I (and also my colleagues Bernheim, Wetterstrand, Ringier, and Burckhardt, with whom he has dealt in a similar manner) had tried and approved of the method of cure called by him (Doctor Gebhardt) the Liébeault-Levy method, and also that I had communicated these cases to him for publication. My colleagues mentioned above and I have already publicly objected to the misappropriation of our names, and Drs. Liébeault and Levy have done the same. All seven of us have stated that we have absolutely nothing to do with Doctor Gebhardt's publication. Not one of us is acquainted with him.

I wish to add here that I naturally do not give certificates for methods of treatment to anyone, and I warn the reader of this book against any future misuse of the kind. Lastly, I state that Dr. C. Bertschinger (U. S. A.), who publicly claims to be a former assistant of mine, never was my assistant.—Dr. A. Forel.

THE END.

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